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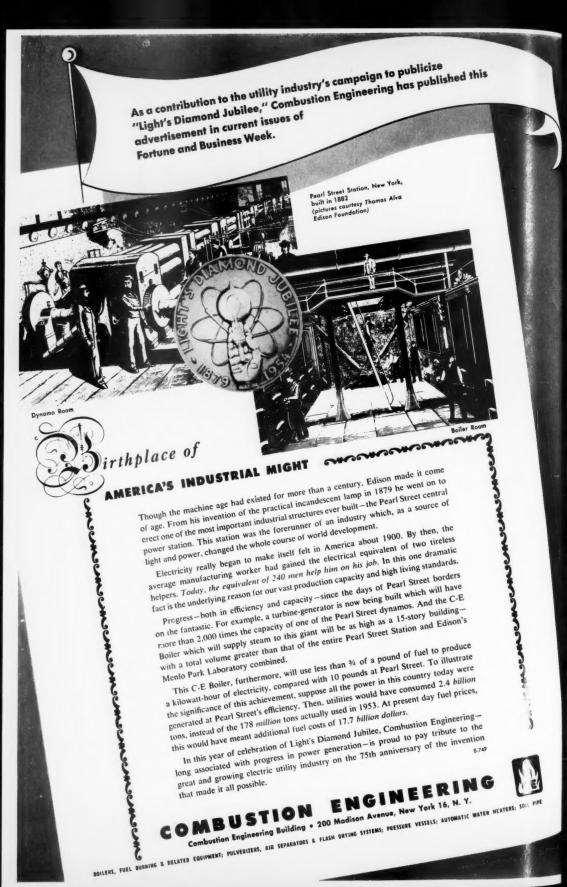
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JUNE 10, 1954



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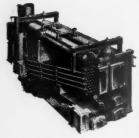
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It is unlikely that Thomas A. Edison, genius that he was, ever envisaged 180-megawatt production from a single electric generating unit.

Yet today that is an accomplished fact in such outstanding plants as the new Astoria Station of Consolidated Edison Company, where each of two 180-megawatt units is served by a B&W boiler.

Now we are celebrating Light's Diamond Jubilee, and reminding all Americans of the electrical progress that has been so helpful to everyone in the short 75 years since Edison's Menlo Park experiments produced the first practical incandescent electric light.

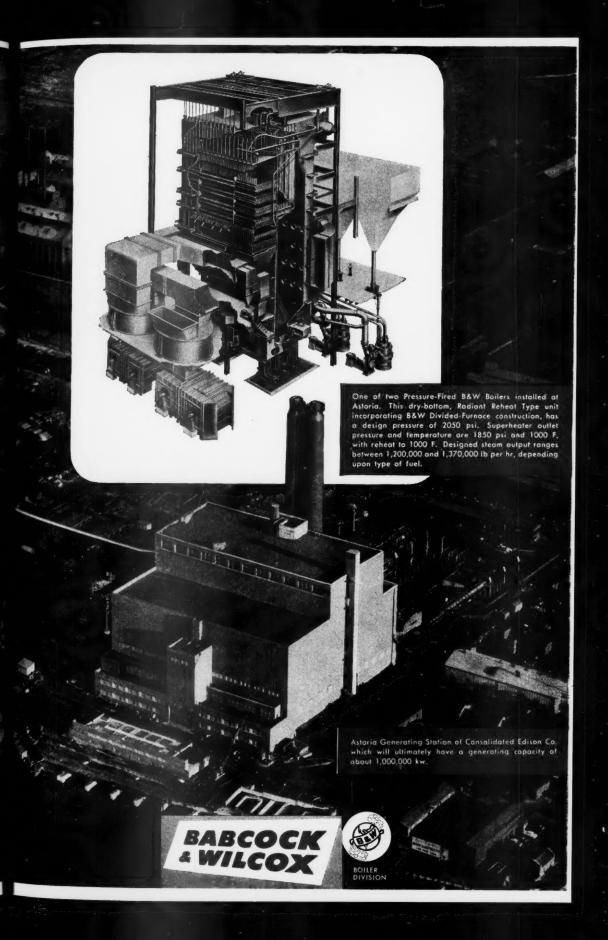
The public relations value of the Diamond Jubilee celebration is important, of course—and proper, too. But we at B&W believe that the electric power industry has good reason to celebrate the Diamond Jubilee for the sheer exuberance of looking back fondly and enthusiastically upon a great job well done—and of looking forward to a future that is limitless.

In only 75 years the lights that first glowed in Edison's Menlo Park Machine Shop have been multiplied by tens of millions across this country and the world. This could only have been accomplished by an industry so technically proficient and so dedicated to its public trust that each challenge has been met in turn, and each victory marked down as a foundation on which to build further.

Having supplied Edison with his boilers for Menlo Park, and a few years later for his Pearl Street Station, we at B&W are proud of our own continuing technical contributions such as Cyclone Furnaces, Pressure Firing, Cyclone Steam Separators, Coal Pulverizers and Divided Furnaces, that have helped the utilities produce more power for more people at lower cost than power pioneers ever dreamed of.

We may well pause to reflect on Menlo Park and Astoria Station—each a significant date in power generation, a significance made greater by the fact that each points in the same direction—to an expanding future.





Pages with the Editors

THE theme of the twenty-second annual meeting of the Edison Electric Institute at Atlantic City, New Jersey, June 1st to 4th was slated to be the observance of the Diamond Jubilee anniversary of Thomas Edison's discovery of the incandescent lamp. As is the case with most historical observances, there is a tendency to consider not only the progress made in the seventy-five years since Edison's first successful light came into the world, but to speculate about the future of the great utility industry which has grown up in its wake.

THE front cover of this special issue, which salutes the electric power industry on the seventy-fifth birthday of Edison's light, pinpoints the most salient feature of any speculation about the long-range future of the electric utility industry—the impact of atomic energy. And so, with the awesome mushroom of an atomic explosion in the background, our artist has depicted in the foreground a laboratory reactor of a type now being used under the supervision of the Atomic Energy Commission-to assist in discovering and improving the peacetime uses of this modern genie, which has come out of the bottle of atomic fission. The pioneer spirit of Edison hovers over all.



WALTER H. SAMMIS



FRANK M. TAIT

Following our annual custom, we are privileged to present, as our opening feature in this issue, a special message from WALTER H. SAMMIS, president of the Ohio Edison Company, as well as head of the Edison Electric Institute for the year ending with the convention in Atlantic City. SAMMIS is an engineering graduate ('17) and former faculty member of Columbia University, who first got into the utility business after World War I service with the Navy, with the engineering department of Consumers Power Company in 1920. In 1932 he became vice president and director of that company, and later became identified with the Ohio Edison and Pennsylvania Power Company.

We have such a diverse and all-star cast of authors in this issue that we can do little more than run briefly over the personal background of several of them. Philip Sporn, whose article on public power begins on page 717, was born in Austria and brought to the United States as a boy. He received his engineering degree from Columbia University ('17). He began work as an electric utility engineer with the American Gas & Electric Company in 1920. Following a series of promotions in engineering duties, he became

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vice president in 1934 and president in 1947, as well as head of American Gas & Electric subsidiaries. This article is in substance a restatement of an address recently made by Mr. Sporn at Swarthmore College as part of the Cooper Foundation series.

Ancher Nelsen, REA Administrator, whose article begins on page 740, is a native of Minnesota, who has operated a diversified farm there since 1924. He has long been active in 4-H Club work, farm bureau and farmer co-operative affairs. He helped organize the McLeod Co-operative Power Association at Glencoe, Minnesota. He was elected state senator in 1935 and served until 1952 when he was elected lieutenant governor. He was appointed REA Administrator by President Eisenhower the following year.

KINSEY M. ROBINSON, whose article begins on page 734, is another native of Minnesota, who went to Idaho as a young man. He graduated from the College of Idaho ('14) and joined the old Idaho-Oregon Light & Power Company as a wireman. He became vice president and general manager of the successor Idaho Power Company in 1933 and president the following year. He has been president and director of the Washington Water Power Company since 1938.

Colonel E. Robert de Luccia, whose article begins on page 745, was born



PHILIP SPORN



ANCHER NELSEN

in Brighton, Massachusetts, in 1904 and graduated from the Massachusetts Institute of Technology in 1927. After some service with Stone & Webster and the U. S. Army Engineers, he joined the staff of the Federal Power Commission in 1938. During World War II he served with the Army as an engineer aide on General Eisenhower's staff. He returned to the FPC as chief of the bureau of power, which he organized. He is now vice president of the Pacific Power & Light Company.

Among the important decisions preprinted from *Public Utilities Re*ports in the back of this number, may be found the following:

C

THE United States Supreme Court decides that the Federal Power Act does not extinguish state proprietary rights in navigable streams. (See page 33.)

Expenses paid by a power project licensee for the use of private water rights, existing under state law, for power purposes are proper expenses for the purpose of computing the licensee's surplus earnings to be paid into its amortization reserve required by § 10(b) of the Federal Power Act, according to the United States Supreme Court. (See page 33.)

THE next number of this magazine will be out June 24th.

The Editors



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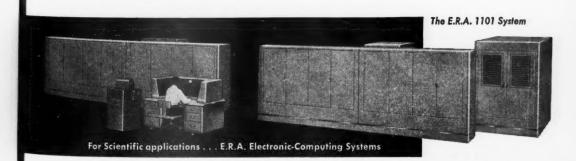
Because such questions can only be answered by you and your staff, we suggest this practical, two-phased approach:

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THE REGULATORY LAG AND WHAT TO DO ABOUT IT

Early this year an article appeared in this magazine on the so-called "Alberta Plan" by a former chairman of the regulatory commission of that Canadian Province. It evoked considerable interest and reaction. So much so that the editors were able to develop a symposium of informal but highly informative viewpoint on what to do about the "regulatory lag" in rate case procedure. The symposium includes the expressions of personal opinion from state commission chairmen and other experts regarding what is being done or what could be done to offset losses resulting from procedural delays in handling rate cases.

A UTILITY PROGRAM FOR THE TEACHER

Probably the best and logical place to give the young people of America an honest understanding of business operations and what makes the wheels of American economy turn is the school. But the teachers themselves must have access to full and fair information on the subject if they are to do this job. H. M. Holmwood, vice president of the General Telephone Company of California, gives an account of an interesting and rewarding program sponsored by that utility in the Los Angeles area. It is a down-to-earth, step-by-step description of how to organize, carry on, and get the most out of such a project.

WHAT ARE 78,000 EMPLOYEES WILLING TO READ?

In making desirable reading matter available for utility company employees, the accent is on voluntary and spontaneous acceptance. This article by James H. Collins, California business author, tells how one utility company management took some interesting measurements of how the booklet racks supplied to its 78,000 employees were being used and—what is much more important—were being evaluated in the eyes of the employee readers. Diversity of subject matter, entertaining treatment, smart packaging, are all factors to be considered.



Also... Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.

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Remarkable Remarks

"There never was in the world two opinions alike."

—Montaigne

SINCLAIR WEEKS Secretary of Commerce. "The wolves will be at your throat again if, after getting your big chance to run private enterprise without back-seat driving of government, you fail to make the most of this opportunity."

Roscoe Drummond Columnist, The Washington Post and Times Herald. "If private enterprise wants to make it unnecessary for the government to operate a vast segment of our atomic economy, it is urgent that industry come forward and begin to take the necessary venture risks."

Leslie Gould Financial editor, New York Journal-American. "The point that is lost sight of in this country is the contribution private enterprise makes to government. Not only does private industry provide well-paying jobs—the best anywhere in the world—but it foots a major share of the cost of government."

Charles R. Slight Chairman of the board, National Association of Manufacturers. "Thinking back to the state of the television industry six years ago, would any of you have been willing to predict that in 1954 there would be more television sets in Chicago and more television sets in Boston than there would be either telephones or bathtubs?"

GWILYM A. PRICE President, Westinghouse Electric Corporation. "Most emphatically, our political leaders must share responsibility for basic ailments and anxieties of our time. When the politician wastes public funds and levies unnecessary taxes, he is immorally depriving the citizen of income that should give him a broader, more secure life. Inflation, government's sleight-of-hand trick, causes more damage to more people than all 'bad' employers who still remain."

RALPH J. CORDINER
President, General Electric
Company.

"In recent years, we have become accustomed to hearing that those who oppose growing government participation in our economic life are seeking to turn back the clock. Notwithstanding this charge, the clock moves forward. And the greatest impetus for forward movement still comes when individuals are free to plan and carry out their own ideas without government coercion or unnecessary regulation."

WALTER H. SAMMIS President, Edison Electric Institute. "Our industry has established a unique record during this era of inflation when the purchasing power of the dollar has dropped 50 per cent, when construction costs, federal taxes, labor rates, and the price of fuels have more than doubled. Through engineering achievements, improvements in operations, and well-directed sales efforts prices for electricity are lower today than they were before World War II. Where can you find another such example of accomplishment?"

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REMARKABLE REMARKS—(Continued)

Douglas McKay Secretary of the Interior. "When the Indians ran this country they had a good system. The women did all the work and had no taxes. Look what we have done."

ALVIN M. WEINBERG Director, Oak Ridge National Laboratory. "I think there is an excellent chance that nuclear power reactors will ultimately turn out to be simpler and cheaper than conventional steam boilers."

Excerpt from 1953 Annual Report, Public Service Company of Colorado. "From the inception of the electric industry, local utilities have accepted and discharged the full responsibility for generating and supplying their respective communities with all of their electrical requirements completely independent of the federal government, except in two areas where the federal government has invaded this responsibility."

GRAYSON KIRK
President, Columbia University.

"A university by definition is something more than a teaching institution; it is a place where many men spend most or all of their time in research activities. A university is not just a storehouse where the accumulated knowledge of the past is sorted, evaluated, classified, and preserved. It is also a workshop in which men try to add to the sum total of knowledge."

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HENRY B. DU PONT Vice president, E. I. du Pont de Nemours & Company, Inc. "Our industrial strength must be sufficiently robust to meet the challenge of any enemy. Unless it is, we may reach that sorry day when there are no ramparts left to watch and none of us on hand to watch them. I am a poor hand at slogans, but, if we are going to have one, I would like to have something else to put along-side of 'Trade—Not Aid.' Perhaps 'Liberty—Not Slavery,' or 'Hope—Not Despair,' or, most of all, 'Life—Not Death.'"

B. L. England President, Atlantic City Electric Company. "The electric companies are selling today for tomorrow and they are planning sales policies now for tomorrow's selling campaigns. We are doing this in the same forward-looking manner, with the same spirit of service to our customers and the nation, we have been exercising in our expansion plans. Despite the 20-year campaign of encroachment by federal power, the investor-owned electric companies are strong—strong in their management, finances, and employees, strong in their devotion to the public good, strong in their faith in the future. In its approach to problems ahead, our industry is leading from strength."

Editorial Statement The Times-Herald. (Now The Washington Post and Times Herald.) "The boilers that drive the great turbogenerators of any electric power company can be adapted without too much trouble to burn fuel oil or natural gas in place of the coal which they now use. If the engineers were daffy enough to try it, they might run them on cordwood or chopped-up corn stalks. The only consideration is the cost of the fuel. We pointed out in these columns on the day after the bomb fell on Hiroshima that even if atomic energy were free, its use as fuel for generating electricity would cut our light bill only one-fifth, since four-fifths of the price of electricity to the consumer is for capital investment, distribution, and other costs that wouldn't be affected by free fuel."

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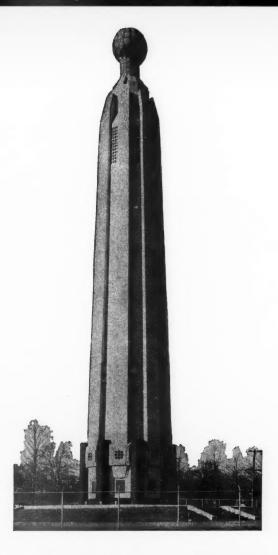
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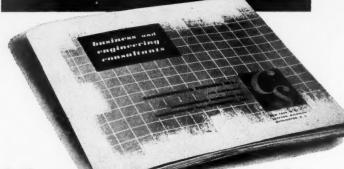


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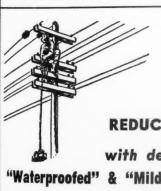
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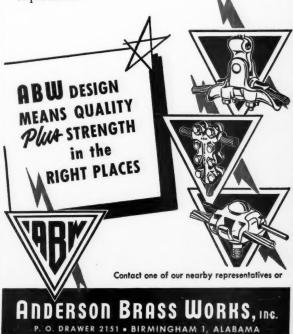
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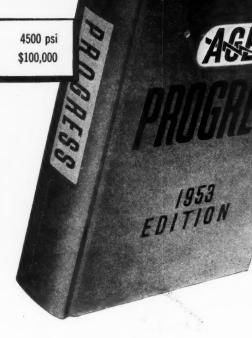
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If the story of AGE progress in 1953 were put in a book, it would make a mighty volume. Just a few facts and figures, though, tell a lot about that progress and how AGE discharged its responsibilities last year to its service area, to customers, shareowners, employees, and to the nation.



330,000 VOLTS is the voltage of AGE's newest transmission network. Highest voltage line in America, it is a major step forward in the delivery of electric power with maximum economy from generating source to point of use.

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OVEC means Ohio Valley Electric Corporation. It is a group of 15 private electric utility companies proving that private enterprise can perform an indispensable service of unprecedented magnitude. The job: to provide electric power to a great new atomic production center, the largest single electric customer in history. Three of the utilities that sponsor OVEC are AGE companies.

NPG, the five-company Nuclear Power Group, is another joint effort - a step into the future - in which AGE is taking a major part. Purpose of NPG: to explore exhaustively the techniques and economics of the atomic generation of electric power.

4500 psi, a new high in steam-pressure in a commercial generating unit, was adopted in 1953 as the basic design figure of a new unit for a major AGE plant. A milestone of roughly the same scientific import as exceeding the speed of sound, steam-generation at 4500 psi opens up a new era of steam-generation efficiency with the use of smaller equipment.

\$100,000 a year is the savings estimated through the use of the "Penalty Factor Computer" now being built for AGE. With speed never before approached, it determines the most economical routing of power from several alternative sources to a given point of use.

* * *

AGE moved well ahead in '53, equipped itself well to move ahead still further.



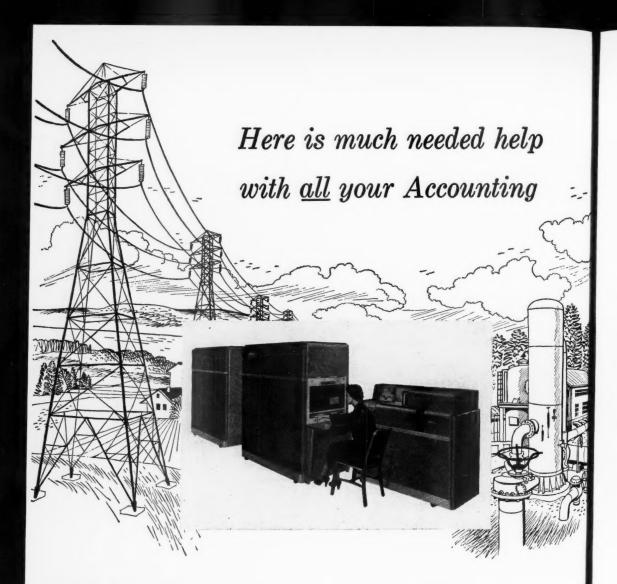


American Gas and Electric Company

Operating Affiliates

Appalachian Electric Power Company Central Ohio Light & Power Company Indiana & Michigan Electric Company

Kingsport Utilities, Inc. The Ohio Power Company **Wheeling Electric Company** Kentucky and West Virginia Power Co., Inc.



IBM's new magnetic drum machine, the "650", promises really big things to utilities in all their accounting.

Take, for example, customer accounting. In a single operation the "650" performs all bill computation and revenue analysis. This includes an automatic high-low check, estimated bills, revenue summaries, bill frequency summaries, and accounts receivable control information. The billing cards produced in this operation may contain aged arrears as well as current billing data.

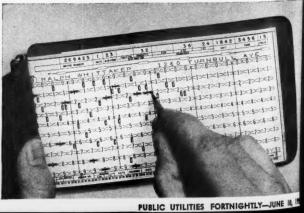
How is all this possible?

Because of its tremendous storage capacity of 20,000 digits, including as many as 2,000 program steps; its automatic table look-up, selfchecking features, ability to calculate and distribute data without disturbing the original sequence of the cards, plus many other features.

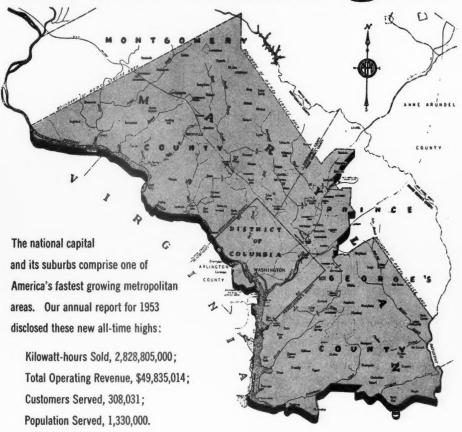
If you haven't already talked about the "650" with one of our representatives, call him today for details.



INTERNATIONAL BUSINESS MACHINES 590 Madison Avenue, New York 22, N. Y.



Growing with Greater Washington



"The outlook for continued load growth in our service area is favorable due to both the present high level of building activity and the ever wider use of electric devices.

"As of December 7, 1953 our 40,359 Common Stockholders of record included 18,000, holding approximately 60% of the outstanding shares, whose addresses were within the District of Columbia, Maryland or Virginia.

"It is particularly pleasing to the management to have this indication of confidence in the Company from persons who live in or near its service area and are thus peculiarly able to evaluate that area and the character of the Company's service."



Excerpts from the message to stockholders by R. Roy Dunn, President, in Pepco's 1953 Annual Report.

POTOMAC ELECTRIC POWER COMPANY . WASHINGTON, D. C.

The Western Precipitation

CMP

...its advantages to PUBLIC UTILITIES

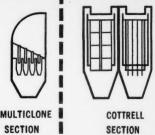
Inasmuch as most public utility power generating plants are located in or adjacent to metropolitan areas, the control and recovery of fly ash from stack gases is a particularly important problem. To assist power plants in solving this problem Western Precipitation pioneered, almost a half century ago, the first commercial application of the now-famous Cottrell Electrical Precipitator—and this type of equipment is still universally recognized as outstanding in its field.

Some years later, Western Precipitation also pioneered the first small tube *mechanical* recovery equipment—the Multiclone Collector—to provide high recovery efficiency at low installation cost.

And as a result of these years of firsthand experience in both electrical and mechanical recovery methods, Western Precipitation subsequently introduced the CMP unit—fly ash recovery equipment that combines in one integrated unit the advantages of both electrical and mechanical recovery principles.

- The CMP first passes the stack gases through a Multiclone section where the heavier fly ash particles are mechanically removed.
- Then the partially-cleaned gases pass through a Cottrell section where the very fine fly ash particles are electrically recovered.





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industry

RESULT—by using a Multiclone section move all but the finest particles, the but the recovery operation is performed relatively low-cost equipment. And us Cottrell for final clean-up insures unus high recovery efficiency—approaching retically perfect, if desired. Thus, very recovery efficiency is obtained at low insured.

With CMP equipment, even small ity companies can afford adequate fly a covery installations. But, large or small vital factor in making an efficient CM stallation is obtaining the proper balance tween the mechanical and electrical sector fit the particular requirements of each dividual application.

This requires actual field experie and no other organization can equal We Precipitation's years of first-hand experin both mechanical and electrical recomethods...your assurance of maximum isfaction when you bring your fly ash lems to this long-established organization

Western Precipitation Corporat

DESIGNERS AND MANUFACTURERS OF EQUIPMENT COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIG Main Offices: 1064 WEST NINTH STREET, LOS ANGELES 15, CALIFO Chrysler Bldg., New York 17 • 1 N. La Salle St. Bldg., Chicago 2 • 1429 Peachtree St. N.E. Hobart Bldg., San Francisco 4 • Precipitation Co. of Canada, Ltd., Dominion Sq. Bldg., Main Canada, Ltd., Dominion Sq. Bldg.,

Write for full details on Western Precipitation CMP equipment—or contact our office nearest you.

PITTSBURGH SEAM COALS INCREASE PLANT EFFICIENCY - REDUCE COSTS

ISOL PITTSBURGH

Nashed
ligh BTU content
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extensive reserves

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ONSOL PITTSBURGH SEAM COALS

Mined in the famous Fairmont Field of Northern West Virginia, Consol MOUNTAINEER is y accepted by the electric industry because of its superformance under all load cons and for the economy it



Produced in Eastern Ohio, every pound of Consol HANNA electric

utility coal is washed and dried to assure a consistent high quality product and as a guarantee of our pledge—PERFECTION IN PRODUCTION.



Coming from the Western Pennsylvania coal producing district, Consol CHAMPION

pulverizer fuel is favorably known for its uniform high BTU content and efficient performance by the electric utility industry it serves so well.

Pittsburgh Consolidation Coal Co.

KOPPERS BUILDING, PITTSBURGH, PA.



Now 1,400,000, soon 1,800,000

ALL HARNESSED TO GO

Now, there's over twice as much horsepower at "the top of the South" for the wheels of industry! VEPCO—serving most of Virginia and adjoining areas in North Carolina and West Virginia—has more than doubled its electric generating capacity within the last six years.

New industries, established industries wishing to expand, and those whose roots have been in the "top of the South"—have found that here Men, Materials and Markets team together for better production in a favorable climate, and where fine transportation provides ready access to the markets of the nation, and to those of the world through the unequalled ports of Hampton Roads.

Here, at the "top of the South," the people are really friendly to new and expanded industry for, with traditions going back to Colonial days, they know that more invested capital means greater opportunities for workers who realize what free American enterprise can do.

Our Area Development Department can help you find the location you want for your industry. We have the information on sites, natural advantages and technical details.

A letter, postal card or telephone call will start this confidential service to you.

AREA DEVELOPMENT DEPARTMENT

VIRGINIA ELECTRIC AND POWER COMPAN

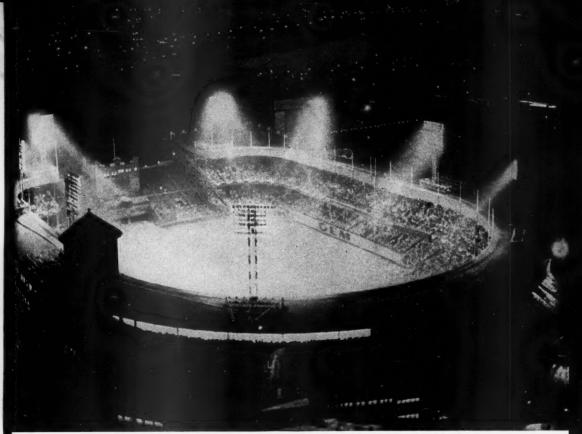
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INIGHT A LIGHT? On summer nights, the N. Y. Giants play ball at the Polo Grounds. Cool? Comfortable? You bet. Fans pack the Anyone can find time to go. Eight banks of 120 lights, each 1500 watts, turn night into day. Each bank takes miles of copper wiring.

They Turned Night Into Day

This is Light's Diamond Jubilee. Read how an incandescent lamp and a Montana copper mine, both 75 years old, help make life brighter, better.

kin 1879 the National League was apup, racing around Abner Double-sidiamond.

om Edison was working nights . . .

mally, on October 21, the Wizard of Park coaxed a slim filament to for 40 hours. In a crude glass bulb incandescent lamp was born.

that same year, at Butte, Montana, my miners were sinking a new mine thristened "The Anaconda." With and dynamite they worked closer fabulous vein of copper ore—the first that earned Butte title of "the richest hill on earth."

It takes plenty of copper

world rubbed Edison's wonderful Its miracle of light has glowed her every year. In homes. In facs. On gay Broadway. On the farms. All over the globe.

But not without help from copper.

Edison needed only ten feet of copper wire in 1879. Today *half* of all the copper produced becomes wire.

Where does it come from?

To help supply this copper, mining companies over the years have explored and developed many new ore deposits. And they have successfully sought new ways to mine and process lower grade ores economically.

For instance, the rugged prospectors of old Butte would blink in amazement to see the new Kelley Shaft opened in Butte in 1952. It is now 2200 feet deep. Up that shaft Anaconda is hustling 12,000 tons of ore per day.

Blazing a trail of light

Because Tom Edison tinkered . . .

Because Butte miners—and others elsewhere—dug deeper and farther . . .

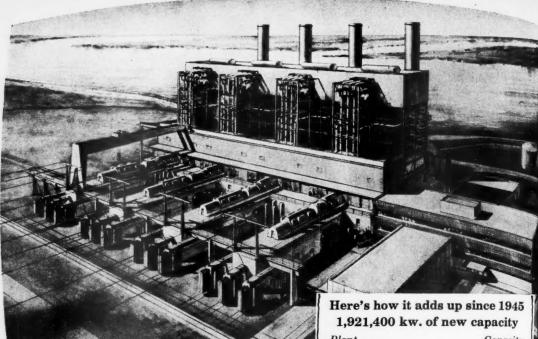
Because America's light and power companies now produce over 400 billion kilowatt-hours of energy a year . . .

Light's Diamond Jubilee is the brightest ever! 54424

ANACONDA COPPER MINING CO.

Anaconda Wire & Cable Company The American Brass Company 25 Broadway, New York 4, N. Y.





New Pittsburg, Calif., plant will up our capacity 600,000 kw.

A report to you on the largest gas and electric expansion in history

In little more than eight years, P. G. and E. has spent more than a billion and a quarter dollars on expansion. Since late 1945, we've more than doubled our generating capacity. And we've upped our natural gas capacity 600 million cubic feet a day by building the "Super Inch" pipe line, which brings in gas from Texas and New Mexico. Here's why we've grown so fast:

1. In the last eight-plus years, we've added 460,000 electric customers and 430,000 gas users.

2. The average P. G. and E. home customer now uses twice as much gas and electricity as 10 years ago. And Northern and Central California aren't through growing yet. The needs of our customers for gas and electricity are still on the rise. To supply this growing demand, we're continuing to expand at a fast rate. Soon our gas capacity will be up another 100 million cubic feet a day. And by 1956, we plan to boost our electric generating capacity to nearly three times what it was before World War II.

Plant	Capacity
Electra (hydro)	92,000 kw.
West Point (hydro)	15,000 kw.
Station "P" (steam)	220,000 kw.
Kern (steam)	195,000 kw.
Colgate (hydro)	25,000 kw.
Cresta (hydro)	70,000 kw.
Donbass (steam)	4,800 kw.
Rock Creek (hydro)	110,000 kw.
Moss Landing (steam) .	575,000 kw.
Contra Costa (steam) .	575,000 kw.
Salt Springs Unit #2(hyd	ro) 29,000 kw.
Murphys (hydro)	3,800 kw.
Enlargement	
of other plants	6,800 kw.
Total	1,921,400 kw.

1,034,000 kw. of capacity to be completed by 1956

Plant	Capacity	Date
Pittsburg (steam)	600,000 kw.	1954
Pit No. 4 (hydro)	84,000 kw.	1955
Morro Bay		
Unit #1 (steam)	150,000 kw.	1955
Morro Bay		
Unit #2 (steam)	150,000 kw.	1956
Humboldt Bay (stea	m)	
	50,000 kw.	1956

600,000,000 cubic feet a day of new gas capacity... This results from construction of our "Super Inch" pipe line and its expanding deliveries.

1,034,000 kw.

100,000,000 more cubic feet a day of gas coming from still larger "Super Inch" deliveries.

PACIFIC GAS AND ELECTRIC COMPANY



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A Pioneer Banking Department for the UTILITY INDUSTRY

Almost a quarter of a century ago, Chase realized the need for a highly specialized banking service for the utility industry. A Public Utilities department was formed with a special staff devoting its entire time to the industry.

Since the department's formation, and through a period of fluctuating business conditions, Chase has provided billions of dollars in credits to the utility industry for the expansion of properties and the improvement of services. The bank has also assisted many companies in the solution of other corporate problems.

The Chase is proud of its contribution to the phenomenal growth of the utility industry.

Why don't you talk to the people at Chase?



THE Chase NATIONAL BANK

OF THE CITY OF NEW YORK

Member Federal Deposit Insurance Corporation



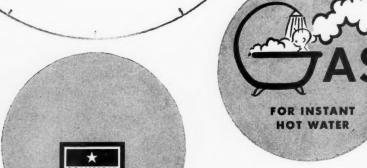


Columbia Gas System

delivers a modern miracle 24 Hours-A-Day!

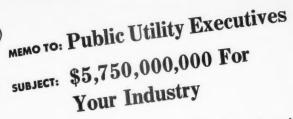


DRYING



© The Columbia Gas System

CHARLESTON GROUP: United Fuel Gas Company, Atlantic Seaboard Corporation, Amere Gas Utilities Company, Virginia Gas Distribution Corporation, Big Marsh Oil Company, Central Kentucky Natural Gas Company; COLUMBUS GROUP: The Ohio Fuel Gas Company; PITTSBURGH GROUP: The Manufacturers Light and Heat Company, Binghamton Gas Works, Cumberland and Allegheny Gas Company, Home Gas Company, The Keystone Gas Company, Inc., Natural Gas Company of West Virginia; OIL GROUP: The Preston Oil Company.



During the post-war period of 1947-53, Kidder, Peabody & Co. took part in the offering of 449 public utility issues, representing about \$5,750,000,000 of financing either as manager or co-manager of underwritings, as participant in underwritings headed by others or as agent in the private placement of utility securities.

During 1953 alone, Kidder, Peabody & Co. participated in the sale of 93 utility issues of which 47 were managed or placed privately by the firm. The growth of private placements and negotiated sales is indicated by the fact that these two categories exceeded competitive bidding underwritings managed by the firm in 1953.

For the purpose of processing this business to the best possible advantage to the issuers, Kidder, Peabody & Co. maintains a large staff of highly trained utility experts. Members of the staff not only make essential investigations on the method, type and timing of financing, but also consult with companies on future programs.

Our experience in assisting issuers may be helpful to you. You are invited to write or call at our offices to discuss your plans with one of our partners.

KIDDER, PEABODY & CO.

Members New York and American Stock Exchanges Members Boston and Midwest Stock Exchanges

17 WALL STREET . NEW YORK 5, N.Y. SAN FRANCISCO PHILADELPHIA

CHICAGO BOSTON



Since 1932, p has used only and annual re

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PUBLIC SERVICE also uses pressure-creosoted poles for its residential distribution lines. These homes, all heavy consumers of electricity, are located in Linden, N. J.

THIS 65-FOOT pressure-creosoted pole carries transmission lines between the Clark and Sewaren substations of Public Service Electric and Gas Company.

Public Service Electric and Gas pressure-creosoted poles . . . replacements run less than 1%

 Public Service Electric and Gas Company supplying seven billion kilowatt-hours to over 225 municipalities in New Jersey—has found pressurecreosoted poles a big economy factor.

From its 90-foot heavy-duty transmission line poles to its 35-foot distribution line poles, Public Service, since 1932, has used nothing but pressure-creosoted Southern pine poles. And nearly all of the pre-1932 poles have had Creosote treatment.

George McCaskie, a Public Service engineer specializing in wood, says, "We have eliminated our major problem—decay at the ground line—through the use of pressure-creosoted poles. Creosote's deep penetration also prevents decay above the ground line.

"Until 1945," Mr. McCaskie continues, "we had

a four-year inspection cycle. But pressure-creosoting made it possible to extend this cycle to six years."

Public Service specifies eight pounds retention on poles 40 feet and less in length and ten pounds on poles 45 feet and over.

This is another example of Creosote's ability to lengthen pole life and keep replacements low. It's more proof of performance.

For best results from Creosote treatment, be sure your treating plant uses USS Creosote, a uniform product of United States Steel's tar distilling operations. For complete information, contact our nearest Coal Chemical sales office or write directly to United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pa.



PRESSURE-CREOSOTED pole being set after the auger of the earth borer is withdrawn.



BACK FILLING and tamping a new pressure-creosoted pole in Cranford, N. J.



SAMPLE OF WOOD being taken from a pressure-creosoted pole during inspection.

USS CREOSOTE



JACKSON & MORELAND

ENGINEERS AND CONSULTANTS

Design and Supervision of Construction

Reports — Examinations — Appraisals

Machine Design — Technical Publications

BOSTON

NEW YORK

CONVEYORS

by Sy-Co



Coal Handling Installation at the Astoria Station of the Consolidated Edison Company of New York, Inc.



Sy-Co Corporation

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7-11 Ridge Road Lyndhurst, N. J.

Oak Creek on the Job

New Oak Creek Power Plant on Lake Michigan between Milwaukee and Racine

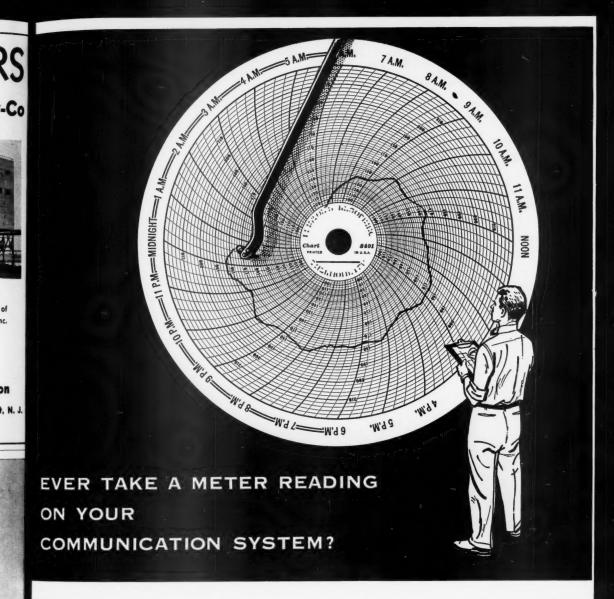
THE first 120,000 kilowatt unit at Oak Creek went "on the job" in 1953, bringing system capacity above the one million kilowatt mark.

Construction of a second unit is now proceeding. It will be placed in operation during the fall of 1954. A third unit is scheduled for completion in 1956. Presently planned capacity at Oak

Creek is 500,000 kilowatts.

Oak Creek represents another forward step in providing dependable service for widely diversified industrial and rural areas in Wisconsin and upper Michigan. Our system serves 484,500 electric customers, 70,500 gas customers and 1,340 steam heating customers.

WISCONSIN ELECTRIC POWER COMPANY SYSTEM



ell System communication engineers will help you ke a good, close look at your communication sysm...at no cost to you.

our Bell Telephone Company will make a comrehensive survey to help you get the best use of our facilities...local exchange, long distance, obile, teletypewriter, metering and supervisory ontrol...all the communications you use. More an one hundred studies are now underway for major pipe lines, power companies and railroads.

These surveys include recommendations to give your operation the best communications at the lowest possible costs. Many companies have changed, rearranged or added services on the basis of these surveys.

• If you are interested in a communication survey by Bell System experts without charge, call your local Bell Telephone representative now.



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RIVATE-LINE TELEPHONE



TELETYPEWRITES



MOBILE TELEPHONE



METERING CHANNELS



BELL TELEPHONE SYSTEM

Underwriters of Public Utility Bonds, Preferred and Common Stocks

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Securities of Industrial Corporations

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LEHMAN BROTHERS

New York

Los Angeles

Chicago

PUBLIC UTILITIES EOPTNICHTLY INNE

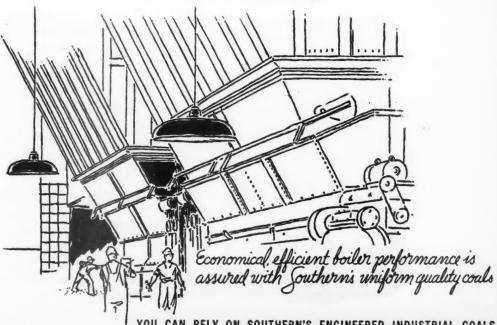
OUTHERN'S

PRODUCTIVITY

is the backbone of your dependable coal supply

for low cost steam and power. Dependable supply is essential.

Industry and the Utilities are striving with tight competition, increasing power demands. Because they must have suppliers with proved coal resources, they are turning to Southern in growing numbers. In its wide spread operations, its 10,000,000 tons annual capacity, its practically unlimited reserves they find a guarantee of immediate and future coal supplies. They are confident of perpetuating the economies gained through careful selection of Southern's uniform quality coals—quality maintained by rigid processing controls. And they are fortified by Southern's half century's record of business integrity.



PLANT ENGINEERS PURCHASING AGENTS—

OAL

Send for this free book. Written by
Joseph Harrington of Southern's engineering staff – noted authority on
Coal; its chemistry, preparation, and
utilization, storing and handling.

South Color of Control of Control

GENERAL OFFICE: 333 NORTH MICHIGAN AVENUE + CHICAGO 1, ILLINOIS OFFICES IN: LOUISVILLE, MEMPHIS, NASHVILLE, ST. LOUIS SINCLAIR COAL COMPANY KANSAS CITY 5 MO. WESTEN PEPPESENTATIVE

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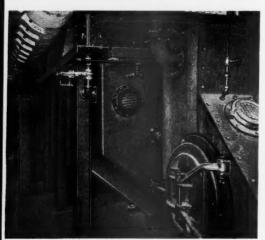
BOWN BIRCH COAL and ASH HANDI

reduce handling costs

...increase operating efficiency



Beaumont Coal Handling Systems



Beaumont Hydraulic Ash Systems

As the only leading company in the world that furnishes a complete line of every type of both coal and ash handling equipment, Beaumont Birch combines and coordinates design, engineering and construction under one contract. This unit responsibility assures you the proper equipment for the exact application. Beaumont designs are flexible, permitting installation under all types of conditions imposed by limitations in space, terrain and facilities. Toward this objective our engineers are ready to serve you.

A few of the applications for which Beaumont is well-known are:

COAL HANDLING—Skip hoists, bucket elevators, belt conveyors, feeders, larries, automatic scales.

COAL STORAGE—Cable drag scraper systems, steel bunkers, tile or concrete-stave silos and gates.

ASH HANDLING — Hydraulic, pneumatic and mechanical systems; ash hoppers and gates.

INCINERATORS — Charging and ash gates, skips and conveyors.



DESIGNERS - MANUFACTURERS - ERECTORS BULK MATERIAL HANDLING SYSTEMS

8EA 154.1



PROUD OLD CALIFORNIA FAMILY!

THIS IS OUR FIFTY-NINTH YEAR of service to homes, farms, business and industry in Central and Southern California, which ranks our "coat of arms" among those of the pioneer families of the west.

Certainly the west of today would have been impossible without electricity. Watering thirsty acres, it transformed barren wastes into fertile fields and groves. Turning mill and factory wheels, it has been a prime mover in this area's amazing industrial growth.

Edison's symbol has meant two things to Central and Southern California throughout the period of its greatest growth and development: A dependable supply of vital electric power at low cost, and a company which has always been an integral part of every community it serves—a good citizen, friend and neighbor.

SOUTHERN CALIFORNIA EDISON COMPANY

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BEA 154.1



No, Moloney hasn't been building transformers for thousands of years. In fact, even though Moloney is a pioneer in the electrical industry, we are pretty young archaeologically. But we do have thousands of years experience in designing and building transformers exclusively. This is the experience which goes to work on your transformer problems, when needed . . . a veritable backlog which assures you of the best transformer possible

... experience the progress of which can be traced through the maze of developments and improvements in transformers to today's gigantic and efficient product.



Power Transformers • Distribution Transformers • Load Ratio Control Transformers • Step Voltage Regulators • Unit Substations • Electronic Transformers





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UTILITIES

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JUNE

Thursday-10

California Independent Telephone Association begins annual convention, San Francisco, Cal.

Friday-11

National Association of Electrical Distributors ends annual convention, Atlantic City, N. J.

Saturday-12

Michigan Gas Association will hold meeting, Mackinac Island, Mich. June 28, 29. Advance notice.

Sunday-13

American Society for Testing Materials begins meeting, Chicago, Ill.

Monday-14

Canadian Transit Association begins annual meeting, St. Andrews, New Brunswick, Canada.

Tuesday-15

American Institute of Architects begins convention, Boston, Mass.

Wednesday-16

American Society of Heating and Ventilating Engineers will hold semiannual meeting, Swampscott, Mass. June 28-30. Advance notice.

Thursday—17

Indiana Telephone Association begins annual convention, Indianapolis, Ind.

Friday-18

Public Utilities Association of the Virginias begins accident prevention round-table conference, Roanoke, Va.

Saturday—19

American Society of Civil Engineers ends convention, Atlantic City, N. J.

Sunday-20

American Society of Mechanical Engineers begins semiannual meeting, Pittsburgh, Pa.

Monday-21

American Institute of Electrical Engineers begins summer and Pacific general meeting, Los Angeles, Cal.

Tuesday-22

American Gas Association, Residential Gas Section, ends New York-New Jersey regional gas sales conference, Spring Lake, N. J.

Wednesday—23

American Water Works Association, Pennsylvania Section, begins annual conference, Allentown, Pa.

8

Thursday—24

Canadian Electric Association begins annual convention, Murray Bay, Quebec, Canada.

Friday-25

Edison Electric Institute, Accident Prevention Committee, will hold meeting, San Francisco, Cal. July 1-3. Advance notice.



Courtesy, Carolina Power & Light Company

Power Bridges the Mountains

Public Utilities

FORTNIGHTLY

Vol. 53, No. 12



JUNE 10, 1954

With Opportunities Go Responsibilities

The annual convention of the Edison Electric Institute will be held this year in an atmosphere inspired by Light's Diamond Jubilee, and all that it represents. Here is a personal message on this theme from the head of that great organization.

By WALTER H. SAMMIS*
PRESIDENT, EDISON ELECTRIC INSTITUTE

T will be an occasion for introspection and stock taking by the electric industry and of justifiable satisfaction in the accomplishments of the seventy-five years since Edison developed the light bulb that symbolized the beginning of the electrical age. It will also be an occasion for looking ahead, for assessing the potentialities of the coming years, with the

opportunities for greater service to the nation, accompanied by ever-broadening responsibilities.

During the last twenty-five years general and unreserved acceptance of electric service has become a fact, its interweaving in the social and economic fabric has become solid, and its position as the universal servant of the American people established. In this quarter-century, customers of the electric utility industry in-

^{*}Also president of Ohio Edison Company. For additional personal note, see "Pages with the Editors."

creased from 24,000,000 to 50,000,000. Generating capacity was 30,000,000 kilowatts in 1929. It will reach 100,000,000 sometime this fall. Output in 1929 was 92 billion kilowatt-hours. It will be more than five times as great in 1954.

There is not a man, woman, or child in America today whose life has not been beneficially affected by electric service. An abundant supply of electric power has been instrumental in multiplying the production of the nation. It has created new enterprises and revolutionized older ones. It has greatly extended the country's wealth through the creation directly and indirectly of millions of jobs.

THESE briefly summarized facts are cause for deep satisfaction to any man or woman who works in the electric industry. At the same time these facts point up inescapably that the responsibilities of the electric industry have increased with the country's dependence upon electric service.

At the top of the list is the responsibility for provision of an adequate and dependable supply of power. The accomplishments of the investor-owned companies in this respect-as revealed by the figures covering new construction since the war-are staggering. The electric utility companies' generating capacity by the end of this year will have practically doubled since 1945, and further expansion is scheduled through 1955, 1956, and 1957. The magnitude of this expansion program is reflected in the fact that total investment in electric light and power companies has grown from \$12.5 billion in 1945 to a little over \$25.5 billion today, giving a net increase equal to one-twelfth of the approximately \$150 billion expended since the war for new plant and equipment by all private industries in the country.

Nothing but a shortage of critical materials, which might again come about at some time in the future as a result of national defense activities, should limit the industry's ability to supply any markets its best sales efforts can develop. Investorowned companies are willing, able, and anxious to meet the challenge of the evergrowing requirements for electric service, no matter how substantial.

THER primary responsibilities are the continuing improvement of the efficiency of operation and the sale of electric service at the lowest possible price. The electric industry has established a unique record during this recent era of inflation when the purchasing power of the dollar has dropped 50 per cent, when construction costs, federal taxes, labor rates, and the price of fuels have more doubled. Through engineering achievements, improvements in operations, and well-directed sales efforts, prices for electricity are lower today than they were before World War II. Where can another such example be found?

Standards of service have been set that afford no prospect of relaxation in the years to come in the industry's efforts to serve capably. All horizons must be scanned to see how and where further benefits of low-price electric service can be brought to our customers. It is this consideration that justifies the spending of money on research and development, including research to discover how atomic power can be harnessed economically to supply electricity.

We also have the responsibility of mak-



The Unfairness of Government Competition

fear of the destructive force of government taxation, combined with the continuing policy of Congress permitting government bureaus and agencies to compete unfairly in the power business. These problems of government in business and the preservation of our system of free enterprise must in the final analysis be adjudicated in the court of public opinion. The solution will be made easier and will come sooner when the public is fully advised of the problems and inequities that exist, and how the public will be benefited by the fair and proper solution or elimination of the inequities."

ing sure that the companies with which we are associated earn enough to pay the investors a return on their capital that will induce them to keep their investments in these companies and to further attract the large additional sums required for the rapidly expanding electric utility business. It is not enough to have permission from regulatory authorities to earn this return. The companies' operations must be so well administered that the required moneys will be earned. In recent years our industry has been active in going before public service commissions to lay before them the need for higher rates to attract the addi-

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tional capital necessary to serve the rapidly expanding requirements of the companies' customers. We cannot fall short of our responsibility in our relations with regulatory commissions to see that the investors in power companies are treated fairly.

Beyond the responsibilities of providing adequate and dependable electric service are other obligations and responsibilities of increasing importance to the constantly expanding usefulness of our industry.

One of these is participation and lead-

ership in area development activities which contribute to the economic and social betterment of the localities served by the individual companies. Such activities include not only co-operatively promoting the development and profitable operation of local industries but also the improvement of educational, recreational, and other facilities that make the home towns and communities better places in which to live and earn a good living.

In this category, too, is an extensive and deep-rooted interest in the bettering of agricultural processes. The future of a considerable portion of the electric utility business is committed to and bound up in the future of farm electrification. These companies can be counted upon, therefore, to maintain their long-time interest in agricultural development and to continue their co-operation with vocational agricultural schools, universities, the U. S. Department of Agriculture, the agricultural extension service and experimental stations, farm and farm youth organizations, and the equipment manufacturers.

In the interest of equitable treatment for our customers we have the responsibility to lay before the public in understandable terms the reasons why private operation of electric companies is best, why progress, technical and otherwise, in the electric industry has come directly from the system of free enterprise under which the industry was born. Indeed that responsibility is a high and lasting moral obligation to all who believe that only under that system the individual fares best, the common good is served best, and that the fires of incentive, the prime mover of progress, are never banked.

To the end there should be no unjust

discrimination among electric customers, we should seek from the federal government equal treatment for both the investor-owned companies and government-owned power agencies, particularly in the imposition of taxes and in opportunities for buying power from government dams. Federal inequalities in these fields, along with elastic interpretations of the law and unrealistic cost allocations and rate determinations, are responsible for the subsidy to approximately one-fifth of electricity consumers today, at the expense of the other four-fifths and the other federal taxpayers.

Customers of investor-owned electric utility companies pay 14 cents of every dollar of their electric bills toward the support of the federal government, while the customers of federal, state, and local government power agencies, which pay no federal taxes, are exempt from contributing, through their electric bills, to the costs of the federal government. We must continue in the interest of our customers to urge Congress to remove such unfair tax exemptions enjoyed by government proprietary power business, so that their customers shall share in the cost of supporting government and thereby reduce the burden that should be common to all of us.

So, too, we must urge repeal of the preference which Congress has decreed, in most instances, shall be given to public bodies and co-operatives in the sale of electricity from federal government projects. This discrimination against the customers of the investor-owned companies is unfair. It should be eliminated so that customers of private enterprise, co-operatives, or government operations will be treated alike.

WITH OPPORTUNITIES GO RESPONSIBILITIES

Another inequality exists in the fact that interest from securities sold to finance government projects is free from federal income taxes and in many cases from state income taxes. Also, interest on government capital is frequently not charged against the government proprietary operation. Rates for government-produced power should include the full cost of money. In the case of federal operations, the full capital cost should be fairly allocated to power facilities by an agency concerned with the welfare of the U. S. Treasury and should include interest during construction.

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Congress should authorize state and local governments to levy taxes against the power facilities and power business of federal agencies on the same basis that such taxes are levied against private business. As substantial local taxpayers, we are interested in the efforts of local governments to gain the right to tax federal property, particularly where it is used in competition with private business, at the same rate as other similar property in the area. In addition to reducing the share of each local taxpayer, such action would help to reveal the true costs of federal government power operations and would help to show the unfairness of the so-called "vardstick" and the uneconomic character of such operations.

QUCH inequities of government competition remain an unsolved problem. We have no fear of government competition per se. We do have deep fear of the destructive force of government taxation, combined with the continuing policy of Congress permitting government bureaus and agencies to compete unfairly in the power business. These problems of government in business and the preservation of our system of free enterprise must in the final analysis be adjudicated in the court of public opinion. The solution will be made easier and will come sooner when the public is fully advised of the problems and inequities that exist, and how the public will be benefited by the fair and proper solution or elimination of the inequities.

The record will attest that the primary responsibilities of electric power supply have been and are being met well and ably. I think it can be said that the spirit of service, efficient and dependable service, that is profitable to both customers and companies has been dominant in the thinking and action of electric utility company managements. The true interest of the public is management's compass.

HE continued expansion and sound development of the company is dependent upon such trust and confidence as it may merit from customers, by providing them with the best possible service at reasonable rates; from employees, by fair and forthright dealing and equitable compensation for their work; and from stockholders, by providing them with an adequate return and sound protection of the investment they have entrusted to the enterprise."

—Excerpt from 1953 annual report, Southern California Edison Company.

The Lessons of Seventy-five Years of Service

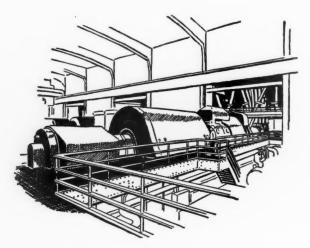
A symposium of reflections by veteran leaders of the electric industry on the occasion of the Diamond Jubilee of Edison's electric light.

THERS will undoubtedly comment fully on the amazing expansion of our industry—past, present, and future. I would like to comment briefly on another astounding accomplishment, and that is the renascence of our industry as a "solid citizen."

Rarely in American history has an industry lost standing in public opinion to the extent that the electric utility industry did in the latter half of the twenties and the first half of the thirties. At the same time an administration came into power with a philosophy which gave rein to those who believed in public ownership of the electric utility industry and opened the doors of the federal Treasury to help achieve that objective. The TVA project was inaugu-

rated and federal projects began to multiply. The Federal Power Act, Part II, the REA Act, and Public Utility Holding Company Act were passed. Worst of all, the interpretations of these laws and other existing laws by departments and administrative agencies were all directed against our industry and in favor of the expansion of federal government ownership and control of the industry. In those years of the early thirties few voices were raised in defense of the electric companies and those voices were drowned out by the storm of propaganda that was let loose on the country by their opponents.

THEN along came the war. No industry gave a better performance than



THE LESSONS OF SEVENTY-FIVE YEARS OF SERVICE

ours during these trying years. With a much reduced operating personnel, on account of military service of employees and many also serving in Washington in the government war agencies, "Electricity was never too little or too late."

We made many friends, both locally and nationally, during this period and emerged in good standing, but still confronted with tremendous problems, such as catching up with plant; inflation (common to all); and a full-fledged effort to expand the federal electric power program. This latter problem was little understood by the public, and by 1949 public opinion was still only 46 per cent opposed to such a program.

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The war also had a very important byproduct within our industry. It had required much closer integration and cooperation in our operations. Top personnel
had become much better acquainted. As a
result, our companies gave better service.
Even with spiraling inflation the slogan
"The price of electricity has never gone
up" remained valid until the last several
years when mounting costs finally required rate increases. Even so, the average
cost of electricity used in homes is still
lower than in 1940.

The magnificent achievement of the individual companies themselves in meeting the tremendous increase in demands for power, both during World War II and subsequent thereto, together with their contribution as citizens each within their own area, has resulted in our industry being recognized as a "solid citizen." One tangible evidence of this, however, is the ready acceptance by investors of billions of dollars of securities our industry has had to sell this last decade. We again are on an equal footing with other good citi-

zens. Like the phoenix, we have arisen from the ashes. Today public opinion is about 59 per cent against federal ownership and operation of the electric light and power industry. Some 55 per cent favor business ownership and operation.

We must cherish this status and the best and only way to do so is by continuing to be better and better citizens, both locally and as an industry.

> —Austin D. Barney, Chairman of the board, The Hartford Electric Light Co.

LIGHT'S Diamond Jubilee, featuring our tribute to Thomas A. Edison, gives us an unusual opportunity to draw public attention to the great record of the electric industry. It is a record of achievement and progress, born of vision and established with courage and enterprise.

In recent years electric utility companies have met two tremendous challenges—unprecedented demand for expansion of generating capacity and the destructive forces of government competition, actual or threatened. The industry's willingness and ability to meet the extraordinary demands of war as well as the growing needs of peace, have made a deep impression upon the people of the country. Our record in this respect has been a formidable weapon in combating the encroachments of government.

My own company, for example, has added 1,921,400 kilowatts of new capacity since the end of World War II. We have more than doubled our 1945 generating capacity and will nearly treble it by the end of the postwar decade. Our investment in new electric plant alone since late 1945 exceeds \$950,000,000.

Investor - owned utility companies throughout the nation have similar records of expansion. They have unquestionably demonstrated that business-managed, taxpaying industry is taking good care of America's power needs. The electric industry today has greater strength and solidarity throughout the nation than ever before and is well prepared for the demands of the future, including the possibilities foreseen in nuclear research.

However, the electric industry, and American industry in general, cannot afford to relax their vigilance over matters relating to government interference with business and the gigantic cost of government itself.

A MATTER of vital importance to all business, and especially to utility companies, is taxation. Enterprises established by government are generally tax-free and where our industry is concerned freedom from taxation creates rate inequalities. These inequalities in turn nurture a political climate friendly to the government ownership idea. Exemption from taxation is a subsidy to which no business undertaking is entitled and no valid reason exists for permitting such subsidies to plague our economy.

Most students of taxation agree that our tax structure needs a thorough over-hauling, not only to remove existing inequities, but also to devise a system better suited to the needs of a dynamic economy and more conducive to high levels of production and employment. Fortunately, moves toward these broad objectives are now being made. It is to be hoped that they will be pushed forward with vigor.

Our most important job is to continue to give the best service we can at the lowest

rates possible, to anticipate demands and stay ahead of them, and to stimulate and develop the use of our service with the foresight that has so long characterized our industry. If we continue to do this basic job well, and if we keep the public informed that we are doing so, we will retain public support. With that vital support our industry can be confident of having a future as bright as its illustrious past.

—James B. Black, President, Pacific Gas and Electric Company.

As a participant a few months ago in a symposium on Atomic Energy in Industry, a couplet from Edmund Waller seemed appropriate:

Leaving the old, both worlds at once they view,

That stand upon the threshold of the new.

The story of energy and its relationship to the development of mankind is of interest alike to the scientists, the engineers, and the sociologists. So long as animal power, both human and from beasts of the field, was the main source of energy, human progress, the development of natural resources, and the advancement of the standard of living was small, indeed. For perhaps 6,000 years, starting with the first dim recordings in history until the invention of the steam engine in the latter part of the eighteenth century, the conversion of natural resources was infinitesimally small and the improvement of living conditions to the great mass of people little above the line of bare subsistence. With the invention of the steam engine, energy available to produce goods under man's direction

THE LESSONS OF SEVENTY-FIVE YEARS OF SERVICE

brought about the first significant industrial revolution. The utilization of resources and the increase in the world's true wealth took great steps forward but were attended with all the detriments resulting from the necessity of bringing the work and productive accomplishments to the source of power. This in turn caused the congestion and slum conditions common to the great manufacturing centers.

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WITH the coming of electricity, a new threshold was crossed and Edison's incandescent lamp, marking as it did the beginning of feasible utilization of electricity, started an upturn in the production of wealth and attendant improving of living conditions without parallel in the world's history.

Men are still living who worked with Mr. Edison. Thus, in the span of one long lifetime more advancement has been accomplished than in all prior recorded history. In celebrating Light's Diamond Jubilee we are celebrating the quick climb to a plane of living outmoding the most extravagant conception of Aladdin's Lamp.

It is true that this great advancement could not have been made even with the miracle of electricity except under conditions of political freedom and the incentive rewards which characterize free competitive enterprise.

Now we stand upon another threshold and view dimly through the veil of the unknown the fantastic possibilities in the structure of the atom. The first automobile was a buggy with the horse removed and a single-cylinder engine put under the seat. In like manner, our first concept of the use of atomic energy is to take the heat from the reactor and replace the coal pile. The research physicist and the engineer are working together to remove the veil from the potentialities of atomic energy, thus opening the way for travel ahead into this new and as yet uncharted area of a primal energy source. This, in course of time, may dwarf our developments of the past seventy-five years, just as they produced the giant of electricity towering above all earlier forms of energy serving the purposes of mankind.

What an age in which to live!

—George M. Gadsby,

Chairman of the board and president,

Utah Power & Light Company.

It has been my good fortune to witness firsthand important developments and refinements of the electric age. Many times during the early days of this era the presence of almost overwhelming obstacles was most discouraging. However, the determination and inventive brilliance of the industry's pioneers prevailed and the industry made steady forward progress.

Even so, my earliest memories of the industry are ones of hardships and trial-and-error experimentation. There were no proven practices to follow, no blueprints of experience by which to plot a course. Step by step the problems had to be met and solved. The future of the electric industry was thus laid on a solid foundation of practicality and accomplishment.

In the beginning, it was the usual practice for many individual electric utilities to operate in each urban area. This was particularly true in Philadelphia. Minimum monthly service charges were high. Many pounds of coal were required to generate one kilowatt-hour of electricity.

Voltages varied widely in neighboring districts; as did the frequencies. If a cus-

tomer moved from one part of a city to another, or, in some cases, even from one side of the street to the other, he was likely to find his electrical equipment no longer operative.

ONE of the first major changes to revolutionize the distribution of electricity was the consolidation of the small neighborhood companies into one strong areawide operating organization. This made possible standardization of service.

Another important change that soon followed was the widespread adoption of alternating current as the standard for the industry. This made higher voltages possible, which in turn permitted location of generating facilities at the most economical site, and the transmission of electricity for greater distances.

In addition, the adoption of alternating current paved the way for the interconnection of electric systems. The first such electric grid, centered in the Philadelphia area, set a pattern which spread to link section with section and system with system, thus adding to dependability and economic operation.

Today the electric industry stands on the threshold of important new changes. A precise timetable of these future developments is impossible, but it is a virtual certainty that many revolutionary changes will take place. The use of nuclear fission, to generate electric power, and the farreaching discoveries in the fields of electronics and metallurgy will open vast areas for further improvements.

It is certain that electricity will be produced more economically. Cordless electric clocks, controlled by short-wave radio from Arlington Naval Observatory, have been predicted. Portable television

screens, which can be moved from room to room, seem assured. Other astounding advancements even now are in early planning stages.

DESPITE all of these possibilities, the most important responsibility of the electric utility industry continues to be determination to adhere closely to the basic principles which made it great. From the very beginning, now, and in the future, dependable and reliable service has been and is paramount.

America's electric light and power companies, if they are to continue to forge ahead, can never lose sight of the everpresent challenge to render electric service as nearly perfect as it is humanly possible to provide.

> —H. P. LIVERSIDGE, Chairman of the board, Philadelphia Electric Company.

FIFTY years ago, the electrical industry, only just emerging from its preliminary stage of development, was already exhibiting many of the attributes which have characterized it in the past and which, one would believe, will continue to characterize it for many years to come. Many of us still active in the business or with an active interest in it, have known of its achievements through the intervening years by personal observation and, in many instances, by actual participation. We can remember pitfalls avoided and errors committed and recovered from and, above all, the solid accomplishments in areas of technology and finance and organization which have resulted in a structure of great vitality, essentially a product of individual enterprise devoted to the

THE LESSONS OF SEVENTY-FIVE YEARS OF SERVICE

public service. Informed with this wealth of recollection, one may with reasoned assurance look forward to the courses the industry is likely to follow in the future.

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The inevitable public demand for increasing supplies of electricity, reflecting both population growth and increasing per capita use, will naturally impose upon the industry the necessity for continual expansion of physical plant in annual increments which loom large in relation to our past thinking. There appears, however, no reason to believe that the national economy will not support the required new financing nor that developing skills in the engineering of plants and system will not be sufficient for the occasion.

It is clear, of course, that much engineering progress must take place, that the capacity of plant and transmission units must be increased both as a means of supplying the load growth and to achieve lower unit costs of construction and of equipment. Before radically new fuel resources can economically be tapped, our thermal plants must be designed to accommodate solid fuels obtained under conditions involving relatively increased investment in mining equipment and, presumably, relatively higher fuel prices. At the same time a steady diminution of the supply of high-grade coals will necessitate continual improvement in fuel-burning methods and in the disposal of fuel refuse. Increasing load density and increasing responsibility for public safety and health will give rise to a special set of problems in distribution economics. But the history of past engineering achievements and the current improvements evident in each successive enlargement of the industry's physical plant, supports one's belief that

the engineering of all this contemplated expansion will be done adequately and on time.

Now this expansion of the investment in physical facilities involves, of course, a corresponding growth of the human organization which mans the plant and renders the service. The electrical industry appears fully aware of the necessity that natural human relationships within the organization are worth striving for consciously. Some of the best work of this kind in the country is being done by the electric utilities. It is reflected in the corporations' dealings with the public, as employees only remotely in contact with the directing heads of the corporation are nevertheless made aware of recognition within the organization of the quality of their work and of themselves individually.

And, finally, it must never be forgotten that the electrical industry as we now know it was founded on a high ethical concept of its duty to the public. As long as its leaders continue in that philosophy, this industry will continue in its rôle of a public servant richly deserving of the confidence and even pride of the people of the country.

—James W. Parker, Director and former president, The Detroit Edison Company.

THE last four words Thomas A. Edison spoke publicly were: "Have faith! Go forward!"

That, to me, expresses the driving force of America and of the public utilities industry. We have had faith, and we have gone forward. And the future lies ahead,

golden in promise, abundant in opportunities.

I know. I have been blessed with a long and satisfying career in the industry that, every second, brings the wonder of electricity into home, farm, and manufacturing plant. I have seen mankind prosper and civilization advance, because in our industry there have been vision, and courage, and hard work, and the will to excel.

In my first job in electric light and power I took charge of the power plant of the large steel rolling mills in my home town of Catasauqua, Pennsylvania, more than a half-century ago. This was shortly after I had worked, as a youth, with Mr. Edison in a successful ore-processing experiment. That was the start of my friend-ship with this great man—and what an inspiration he has been to me!

Since then, I have had a major part in the engineering and executive direction of public utilities in seven states and in Japan, particularly the direction of The Dayton Power and Light Company. I took over management and direction of this corporation in 1905, and, in addition to other companies, have been closely associated with it ever since.

Through determination and teamwork, The Dayton Power and Light Company is now a typical example of a marvelous public servant that is investorowned and privately operated and fulfills its responsibilities to the public confidently and efficiently.

I am proud of my association with the company, and am pleased that it is a large and vital part in the great public utilities industry. I am proud because, with my good friends all over the country, I was a pioneer in this marvel, this art of supply-

ing electricity and gas satisfactorily to the American consumer.

Yes, we have come a long way in our efforts to deliver the modern miracle of power and light at the turn of a switch—at a minimum cost that is a glowing testimonial to the efficiency, technology, and intelligence of our industry.

But the pioneering is not over. Always there will be pioneering in our industry, because who can stop thinking, planning, and working when our commodity is "service" to our fellow man?

Today's problems are being solved. And tomorrow's problems will also be solved by tomorrow's pioneers who are following in the footsteps of those of us who have, up to this present day, made the dream of electricity a reality. They, too, will find "what makes things tick." They, too, will go forward even when things look bad. They, too, will grow under our American system of free enterprise as long as it provides genuine opportunities for service and a fair profit.

And the contributions of our companies will be even greater in the years that are ahead, for a nation's—and an industry's—future cannot be but an extension of its past history and personalities. Each attainment is but a vantage point from which to search out new goals ahead.

This is the creed of the privately owned, tax-paying public utilities industry, as I so well know. It is the creed that will lead our industry to new goals through wisdom, skill, and service. And humanity will gain, because our public utilities industry surely will have faith, and will go forward!

—Frank M. Tait, Chairman of the board, The Dayton Power and Light Company.

THE LESSONS OF SEVENTY-FIVE YEARS OF SERVICE

I HAVE been associated with the electric power industry in the Southeast for over forty years, a period covering more than half of the life of the power industry as it exists nationally, and practically all the history of the industry in the Southeast.

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The contrast between the jet plane age and the horse and buggy days is no more striking than the contrast between the industry as it existed in the Southeast forty years ago and its present status.

In 1907, just a few years before my connection with the industry, the area served by the present four subsidiaries of The Southern Company in the states of Alabama, Georgia, Florida, and Mississippi, was supplied by no less than 160 small isolated electric generating plants with a total capacity of some 75,000 kilowatts. There were practically no transmission lines, and interconnections between generating plants as we know them today were practically nonexistent. The service was not reliable, the rates were high, and in many cases the plants operated only during evening hours for lighting.

The integrated system of The Southern Company supplies 1,200,000 customers in this same area today from some 50 generating plants with a capacity of 3,000,000 kilowatts, located in the four states. These generating plants and the principal load centers and cities are interconnected with a 10,000-mile network of high-voltage transmission lines, and in turn The Southern Company system is connected with adjacent power groups to

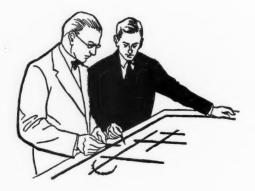
its North, South, East, and West. The replacement cost of The Southern Company system now exceeds one billion dollars.

Power supply has kept pace with the phenomenal growth of the Southeast, which has been very rapid in the intervening years. In spite of the inroads of subsidized public power and the loss of territory, the four companies have prospered and the large sums successfully raised for expansion indicate the confidence of the investing public in private power and in the future of the Southeast.

The Southern Company system plans for the near-term contemplate larger generating units, operating at higher pressures, situated in areas of favorable fuel costs, delivering power to the load centers over 230,000-volt transmission lines. Beyond this stage, undoubtedly nuclear energy will become a factor in electric power supply. We have every confidence that the next decade will see tremendous advances in this challenging new source of energy. Our companies are actively participating in a research program directed to this end.

Looking back on the last four decades, I find my part in the development of the electric industry in the Southeast has been a satisfying experience. Looking ahead to the future of the industry, the problems to be solved are challenging, but I have every confidence in the continued development of the industry in the area.

—E. A. YATES, Chairman of the board, The Southern Company.



Atomic Power and Private Industry

The Atomic Energy Commission, by co-operation with the electric industry, can work out important problems of putting the atom to work for peacetime benefits.

By the Honorable W. STERLING COLE*
U. S. REPRESENTATIVE FROM NEW YORK

ELECTRIC power, produced through use of atomic energy and at costs which can compete with electricity generated by conventional methods, should be available within ten years in many parts of the world.

And, at the rate technological advances are being made, it is not unreasonable to expect that in twenty-five years atomic power plants will be putting electricity on the power distribution grids in various parts of this country. Production of electric power through atomic fission is no longer a scientific problem. Rather it is an economic and political one. Nor is it a question of replacing coal or gas or water power as the heat source in generating electricity, but a matter of complementing them.

It may be some time before atomically

generated electricity will compete successfully in low-cost power-producing regions; *i.e.*, areas where water power or plentiful supply of fossil fuels is readily available, and consumers are nearby. On the other hand, in the high-cost and more or less inaccessible or remote places, where fossil fuels are nonexistent or hard to obtain, and climatic and geographic conditions are adverse, package atomic power plants are even now economically feasible.

The world's need for power is expanding rapidly. According to the President's Materials Policy Commission, the energy requirements of the United States for all purposes will double in the next twenty-five years, while consumption of electricity will treble in the same period. This means either a greatly increased demand for fossil fuels or water power to generate the needed electricity, or some

^{*}Also chairman, Joint Committee on Atomic Energy.

ATOMIC POWER AND PRIVATE INDUSTRY

complementary method of meeting the demand.

If it is assumed that there will be little or no increase in conventional power production costs in the next quarter-century, atomic power costs will have to come down greatly to approach competitive cost levels in many areas.

Reserves of fossil fuels do have some limit. Petroleum engineers say that proved reserves of oil are twelve times, and of gas twenty-seven times the annual consumption. Coal is still abundant in the United States, but mining and transportation costs are mounting. The reasons for seeking complementary sources of power, consequently, are real and urgent.

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Atomic fuels are at least part of the answer, but there are still several factors to be considered. First come plant construction costs. Atomic power plants today are expensive. But there is real hope that through simplification made possible by increased knowledge, atomic power plants can be made much cheaper. Secondly, there is the safety problem. Atomic power plants today require either large land safety areas around them or explosion-proof buildings to contain them. Our caution today is the result of too little knowledge. As experience and scientific knowledge increase, these costs will also come down drastically. Finally, there is the availability of a continuing supply of cheap nuclear fuels, uranium, thorium, and plutonium. As military requirements are met, adequate supplies of fuel should be available for atomic power plants, and through all of this is the problem of the transition from a federal monopoly to private enterprise in the uses and production of fissionable materials.

As to the first factor, the Atomic Energy Commission has already expended large sums on its research and development program in the field of atomic power. Its present 5-year program calls for an annual expenditure of \$8,500,000. There are five specific reactor development projects to be completed within the next five years. Their estimated cost will be \$199,000,000. These five approaches have been selected out of a possible eighty or more, and are the ones which give greatest promise of success.

The "pressurized water reactor" project is where the first experience will be gained in operating a large atomic power plant. It is the only large-scale plant now authorized for construction by the Atomic Energy Commission. It is admittedly of conservative design. On the other hand, it is the one approach now ready for construction as a demonstration of the large-scale generation of electricity from atomic energy.

N co-operation with the Duquesne Light Company, of Pittsburgh, Pennsylvania, the Atomic Energy Commission is underwriting the construction of this atomic power plant to generate a minimum of 60,000 kilowatts of salable electricity. The Westinghouse Electric Corporation has the contract to design, develop, and construct the reactor portion of the plant. The estimated \$60,000,000 costs of this project are to be shared between the commission and the company about fifty-fifty. Engineers figure that the plant investment will represent about \$1,000 per kilowatt capacity, as against an average of \$250 per kilowatt cost of conventional plants. If operating experience proves out present theories, however, the power output may

be doubled, thus reducing the investment to \$500 per kilowatt of installed capacity. While economically this would still look like an unsound investment, at least for private industry, it will blaze the trail for future projects. It will give us much needed operating experience.

AND the first atomic power plant will produce knowledge as well as elec-

tricity—knowledge along the same line of development as that most useful and most interesting to our friends and allies abroad. Thus it will contribute substantially to the international co-operation which President Eisenhower so eloquently described before the United Nations last December as essential if the world is to benefit from atomic energy in a constructive way, as well as through the prevention of war.

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EEI 1954 CONVENTION TIMETABLE, ATLANTIC CITY, NEW JERSEY

Monday, May 31st

11.00 a.m. Registration, main lobby, Hotel Traymore (till 7 p. m.).

Tuesday, June 1st

- 8.00 a.m. Registration, main lobby, Hotel Traymore (till 10 a.m.).
- 8.30 a.m. Registration, Convention Hall (till 5 p. m.).
- 10.00 a.m. First General Session, Ballroom, Convention Hall.
- 2.30 p.m. Second General Session.
- 5.00 p. m. President's Cocktail Party, Vernon Room and Solarium, Hotel Haddon Hall. Dancing to follow (till 7 p. m.).

Wednesday, June 2nd

- 8.30 a.m. Registration, Convention Hall (till 5 p. m.).
- 9.30 a.m. Third General Session, Ballroom, Convention Hall.
- 12.00 noon Ladies' Luncheon, Trimble Hall, Claridge Hotel, Edison Electric Institute, host.
- 2.30 p.m. Fourth General Session, Ballroom, Convention Hall.
- 8.45 p. m. Formal presentation of Charles A. Coffin Award, Warner Theatre on the Boardwalk.
- 9.00 p. m. Entertainment by Victor Borge, Music by the Robin Hood Dell Orchestra, conducted by Percy Faith. Presented through the courtesy of Westinghouse Electric Corporation, at the Warner Theatre on the Boardwalk.

Thursday, June 3rd

- 8.30 a.m. Registration, Convention Hall (till 12 noon).
- 9.30 a.m. Fifth General Session, Ballroom, Convention Hall.



Federal Power Policy

The Interior Department has been trying to stress, in its power policy interpretations, that it is neither in favor of public ownership nor against the business-managed utilities, but rather disposed to let this issue be worked out by local co-operation.

By FRED G. AANDAHL
ASSISTANT SECRETARY OF INTERIOR

URING the period of the past fifty years or more, there has been a growing recognition of federal government responsibility in water conservation and wise use programs. River water unharnessed either flows idly by for the most part or is destructive in flood seasons.

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Many of the projects needed for control are so large, involve such a multitude of widely diversified benefits, and have so many of these benefits from which revenue cannot be effectively collected that, if they are going to be built, it must be done by the federal government.

Large multipurpose dams are a key part of these projects, and they generally have a sizable potential for generating hydroelectric power. Many such dams have been built by both the Army Corps of Engineers and the Bureau of Reclamation. The power potential has been advisedly used and the federal government is now supplying about 12 per cent of the electric power used in this country. This type of production of electric power by the federal government should have taken a natural and nondisturbing course and have been a noncontroversial contribution to the nation's economic strength. That, however, has not been the case.

On the one hand, superliberals have used the federal power program to promote public distribution generally and have attempted to build out of it a federal

monopoly of generating facilities. On the other hand, ultraconservatives have tried to disclaim any federal responsibility in electric power production and have tried to sell out anything that the government now has. Neither position is advisable. The first leads in the direction of ultimate economic and governmental catastrophe and the second is a retarding influence to economic expansion and prosperity.

THE Department of the Interior is the marketing agent for all present federal electric power except that generated by TVA. In establishing its new power policy during the past year, the Department of the Interior has courageously ignored the propaganda of the two groups of above referred to extremists. The merits of the policy are slowly but gradually being recognized. Just what are the provisions of this policy?

In the first place, it asserts a firm intention to have its construction agency, the Bureau of Reclamation, continue the building of more of these projects where they are needed and economically feasible. The policy statement of August 18, 1953, provides:

The Department of the Interior will, therefore, actively plan and recommend construction of generating facilities in hydro projects under its jurisdiction when such facilities are economically justified and feasible. The department will particularly emphasize those multipurpose projects with hydroelectric developments which, because of size or complexity, are beyond the means of local, public, or private enterprise.

Those are not idle words.

Interior has sent a report to Congress

on the Fryingpan-Arkansas project and also a report on the Upper Colorado storage project, urging authorization of their construction. The latter report has the strong, personal endorsement of the President. During the past six months the Bureau of Reclamation and the Corps of Engineers have jointly made a study of the Middle Snake river, and it is expected that a favorable report of this study will be completed very soon.

CECOND, the power policy recognizes and Supports the position that in the sale of power, preference should be given to public bodies and co-operatives. In the administration of this provision, however, care should be exercised so that it does not become a leverage used by the federal government to alter the type of retail distribution that has either been built up by local people or accepted by them through long years of usage. People locally should have the free right to determine whether the retail distribution of power in their community should be by a public organization or by a private utility. They should not be encouraged to turn either one way or the other by the recommendation of federal officials or by the indirect influence of a power-marketing policy.

The intermingled existence of public and private retail distribution at the local level has had a wholesome, competitive influence. The mere fact that either may and can exist under our American economic system has had a valuable influence in really requiring that the one that does have the momentary responsibility does its best to bring good service at reasonable prices to the people in the area.

A third provision of the power policy asserts that the primary responsibility

FEDERAL POWER POLICY

in supplying power for any area rests with the local people. From the August 18th statement I again quote:

It is recognized that the primary responsibility for supplying the power needs of an area rests with the people locally. The responsibility of the Department of the Interior is to give leadership and assistance in the conservation and wise utilization of natural resources. The department does not assume that it has the exclusive right or responsibility for the construction of dams or the generation, transmission, and sale of electric energy in any area, basin, or region.

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That position ties in with a recognition that with all the facilities that the federal government now has, it is able to supply only about 12 per cent of the power requirements of the country. It is a further recognition that these generating facilities that the federal government now has, have come as an incidental part of a conservation program for the water resources of the nation and in the most part not necessarily for the specific purpose of meeting the power requirements of the area, even though it is recognized that the federal contribution has been most helpful.

THERE was a time not long ago when local people either expected or feared,

depending on the political and economic trend of thinking of the individual, that the federal government had as its ultimate objective the supplying from its expanding generating facilities of all of the electric power requirements of the people throughout the nation. The policy statement clarifies this situation, expresses a definite but limited federal responsibility, and invites and encourages local interests, both public and private, to do their part.

It might be well to take just a moment to observe the prospective results of the new policy. It has given a new breath of inspiration to the ingenuity, resourcefulness, and ambition of the American people thinking in the time-tested American way of doing things for themselves. Over the years when both taxes and power rates to consumers are considered, it will mean, I am confident, cheaper electric power to the consumer. In the electric power business an organization of moderate size with a high degree of local responsibility has many advantages, both in efficiency and in effective and satisfactory service to the people. A limited degree of federal responsibility and a rather high degree of local responsibility should also be of decided advantage in a period of military challenges and associated hazards.

Since the release of the power policy statement on August the eighteenth,



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"By asking local interests to do their share in meeting the electric power requirements nation-wide, federal expenditures and taxes become less and the nation's tax base to carry the load grows larger. The new federal power policy is justified on its own merits, it is in harmony with the well-established American way, and it is a feasible and effective way of supplying the people with dependable low-cost electric power."

many local groups have indicated an interest, a willingness, and, in fact, a strong desire to do their part in supplying the electric power needs of their particular areas.

In the Pacific Northwest, where all we have heard for a long time has been a story of power shortage, local interests, about half public and half private, have specifically expressed interest in their possible contribution of 4,150,000 kilowatts of generating capacity. Similarly, in other areas local groups have indicated that they are ready and willing to do what is necessary to supply the power needs and have initiated studies to determine specifically what additional facilities are needed.

With this outlook we can advisedly say that the contribution of the federal government in supplying the power needs of the country should be met adequately by the power that comes from the multipurpose or closely associated single-purpose

dams which it builds in a broad program of water conservation. Any move beyond that point by the government is an unnecessary step in the direction of a federal monopoly of the electric power business.

Our national government is struggling with an unbalanced budget and a burdensome debt. The revenue bonds of local public bodies and the bonds of utilities can now find a ready private market. Local interests can and want to do the job.

By asking local interests to do their share in meeting the electric power requirements nation-wide, federal expenditures and taxes become less and the nation's tax base to carry the load grows larger.

The new federal power policy is justified on its own merits, it is in harmony with the well-established American way, and it is a feasible and effective way of supplying the people with dependable low-cost electric power.



"... about 200 years ago, the second great event of economic history occurred, the discovery of mechanical energy—steam engines, electricity, and later the internal combustion engine. With these discoveries, we have come to know now that there is practically no physical limit to the production of goods and services that people want. We live in this wonderful age of mechanical energy now, this age of invention and increasing ability to produce. Our productive capacity is not just increasing in a straight line, it is increasing at a constantly accelerating rate. Just think of the things we have now that didn't exist thirty years ago—television, sound and color and 3D movies, air conditioning, plastics, radar, jet planes, guided missiles, new chemicals and drugs and metals and fabrics, atomic energy—the list is almost endless, all in the last thirty years."

—ROBERT L. MINCKLER, President, General Petroleum Corporation.



Observations on Private Versus Public Power

By PHILIP SPORN*
PRESIDENT, AMERICAN GAS & ELECTRIC COMPANY

At the beginning let me say that the terms "private power" and "public power" both seem to me to have pockmarks on them as a result of the high-temperature controversy of the last two or three decades. It will help to view the subject in a clearer light if we can put aside arguments which once had some vitality but which no longer reflect genuinely live issues.

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There is, for example, a tendency in some quarters to regard the concept of "private power" as suspect and to ascribe to the concept of "public power" a peculiar virtue. This tendency is, I think, a hang-over of the memories of financial abuses by some utility holding companies during the 1920's, of the failure of some of the private power companies during that era to measure up to their responsi-

bilities, and of the inadequacies and ineffectiveness of some regulatory systems of that time.

The fact is that since the 1920's vast changes have occurred and the conditions which gave rise to the original controversy have long since disappeared. We shall get nowhere if we continue to argue from the past into the present when circumstances have greatly altered and the past in this respect has ceased to be a useful guide.

In so far as private power is concerned, we have today an effective, comprehensive system of regulation—state and federal.

PRIVATE power systems are among the soundest forms of investment for private capital—a condition to which the confident attitude of the investing public eloquently testifies.

For many years now when the cost of living has steadily increased, the cost of

^{*}For additional personal note, see "Pages with the Editors."

electric power to the consumer has at the same time steadily declined.

We have continued to expand our use of power at a phenomenal rate. Since 1920 the population of the United States has increased by approximately 50 per cent; in the same period the per capita production of energy went up over 500 per cent.

I shall have more to say about these points. But whether viewed from the standpoint of the investor, the consumer, or the public at large, our position today in respect of electric power is an enviable one.

In the situation as it now exists, however, the question of government-owned power facilities is of much concern. Government-owned generating facilities which in 1932 represented just over 6 per cent of the total electric supply of the country had by the end of 1952 reached a figure of close to 20 per cent. This increase has largely resulted from the ambitious program which started some twenty years ago for the proper use, conservation, and development of the natural resources of our rivers. But in carrying out this program many projects quite unrelated to the needs of conservation have also been undertaken and it is by no means certain that this process has run its course.

For example, as a result of a 1950 Canada-United States treaty authorizing the use of additional Niagara water for power generation, we now have three bills before the Congress and, while one contemplates development by private enterprise, the other two originally proposed federal and state, and now both provide for state, development. Yet the project in no sense involves navigation, reclamation, flood control, or other functions which we

have traditionally regarded as the legitimate concern of government.

The same kind of issue is foreshadowed in the coming development of atomic power. And other similar manifestations of this problem are bound to develop as time goes on.

In all these, earnest men of good will strive and contend so that to see where fact and truth lie and to see where the public interest lies are becoming more and more difficult. One important element of confusion can be traced to that tendency. mentioned at the outset, which, while regarding private power with suspicion, associates a kind of idealism and a concomitant economic euphoria with public power. This notion, which springs from a memory of conditions long past, at the same time runs counter to another powerful element in the thinking of most of us in the United States. Abraham Lincoln, speaking one hundred years ago, expressed this view, still strongly held by nearly all of us:

The legitimate object of government is to do for a community of people whatever they need to have done, but cannot do at all, or cannot so well do, for themselves, in their separate and individual capacities. In all that the people can individually do as well for themselves, government ought not to interfere.

We have a healthy, pragmatic skepticism about encroachments of government. We are rightly fearful of bureaucracy and officialdom which, to borrow from the language of the current debate over private versus government television in England, too often combines undue authority with a sense of mission.

OBSERVATIONS ON PRIVATE VERSUS PUBLIC POWER

In considering the question of public and private power, therefore, what we should be thinking about is whether and to what extent it is necessary or right that government projects in this field should be allowed to proliferate and how those projects which we now have can best be controlled, regulated, and administered in the public interest. This is going to be no easy task. As a matter of fact, it presents practical difficulties to try and accomplish this all within space limitation of this discussion. At the most, therefore, I should like to analyze basic arguments for and against public power, and thus pave the way for a possible later discussion of pragmatic policy. Such policy, it would be hoped, would not fail to recognize what has transpired historically, and yet would do no violence to the genius of our political-economic basic traditions and philosophy.

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In thus approaching this question I want to examine some of the concepts: semantic, technical, social, economic, political, and try to clear away some of the deep tangled brush which has come to surround them.

As in the case with many chemical reactions which depend on the pH value of the reagents, so with our mental reactions. They are dependent upon something more than the factual composition

of the relevant ideas. Among other things, they are affected by semantics. In the field of power, I believe we suffer from a wild semantic confusion.

Is there such a thing, as a matter of fact, as public power or private power? There is no public power in the sense of a public street or public highway and there is no private power in the sense of a private building or a private estate. The business of electric power supply is a public business and every electric supply system is generally a public supply system in that its service has to be made available to the public within the service area of the system. The difference, however, between so-called public power and private power is in the ownership.

In the one case, ownership is by government, federal, state, or municipal. In the other case it is by private individuals or private corporations and there is a great difference between private ownership and government ownership.

As a general rule—in so far as I know there are no exceptions in the 48 states—all privately owned public supply systems are subject to the jurisdiction and authority of numerous regulatory bodies and, in many cases, both of state bodies and federal bodies. It is not at all unusual to find a single electric utility system subject to the combined jurisdiction of at

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"There is no public power in the sense of a public street or public highway and there is no private power in the sense of a private building or a private estate. The business of electric power supply is a public business and every electric supply system is generally a public supply system in that its service has to be made available to the public within the service area of the system."

least two state public service commissions, of the Federal Power Commission, and of the Securities and Exchange Commission. Their public counterparts, as a rule, are subject to little or no regulation, neither state nor federal. It is true that in some cases the Congress may have jurisdiction, but generally that is of the broadest kind and exercised only irregularly.

We thus have this paradox: Private power, which represents private investor-owned facilities dedicated to public use, is under the regulation and supervision of a large number of publicly created bodies forming major parts of our state and national governments, with the object of protecting the public interest; public power in most cases is subject to no comparable regulation.

An interesting development of late is the introduction of the concept of "the people's own power system." When a Senator of the United States urges that development in the atomic power reactor field be carried on in co-operation with the people's own power system, just what does he mean? "The people's own power system" sounds highly complimentary to the people, but if the people wanted some of their own power system, how would they go about getting it?

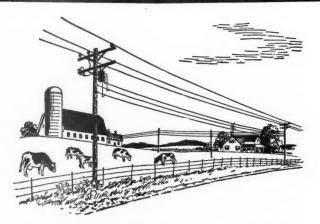
If a citizen of Michigan, owning 100 shares of General Motors stock, needs funds, he can sell his own share in General Motors and obtain the funds and buy a house or pay a tax bill. Can he sell his share in the governmentally owned Bonneville power plant? Can he ever get his share?

"The people's own power system" is a good phrase if you are interested in explaining your own advocacy of government ownership of power facilities, but beyond that it does not go very far.

Or examine the concept of private profit, and particularly private profit in power. I shall not take the trouble to defend the concept of profit, since even socialistic governments recognize today the necessity of a positive balance between income and outgo as a measure of ability to carry on an economic operation without some serious disturbance or break off. But the term private profit, which has been used so often by proponents of public power in attempting to discredit the private utilities is consciously or unconsciously designed to convey the thought that private represents something abhorrent to the public good, since private means exclusive and the limitation of participation to a favored few.

How private is profit in a public service enterprise when the participants in the form of equity ownership are insurance companies, foundations, college endowment funds, charitable organizations, hospitals, pension trust funds of innumerable institutions, and when their investments are freely available for acquisition by any individual who wants to acquire a share in it? And, this is particularly pertinent in the field of power, where privately owned enterprises have the rate of return on their total net capital employed regulated by public service commissions and by federal agencies under generally very rigid limits, with an important principle of fair return being the amount necessary to be able to raise capital in order to carry on the function of serving existing and expanding requirements. In that field, how private is profit?

Water power is one of the most inter-



Private Enterprise Has Responsibilities

**Perhaps one of the strongest arguments for public power develops when private enterprise is not alive to its responsibilities. This may be due to lack of imagination and, therefore, inability to plan ahead, or perhaps a definite lack of desire to assume obligations and responsibilities. When such a situation occurs there may be an adequate basis for public power coming in. In this connection the private power industry failed in the early thirties in many places to plan optimistically ahead, and so failed in too many places in the country to discharge its responsibilities to provide for the distribution of electric power to the rural population."

esting examples of an idea that has gathered layers of semantic barnacles. Water power as a means to an end—a means of producing more economical energy—that simple idea has been befogged by the concept of water power as a natural resource, almost sacred, to be kept for development by the people. It is apparently easy to make the average person believe that water power, since the water itself is free, results in cheap power. That water is merely a resource and as such to be exploited or not depending upon what the end result is going to be, is too often completely lost sight of.

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AND so we find hydro developments being made today which cannot be justified on any other basis except the fetishistic worship of water power and the failure to recognize the direct parallelism between water—white coal—and ordinary or black coal.

Coal, for example, is available in any number of locations in the United States on the basis of \$30 to \$60 per acre of coal land. In many of these areas, the coal that can be extracted per acre is 6,000 tons, which means that the cost of the mineral in the ground is between one-half and one cent per ton. The mineral right in the

ground is a rather negligible portion of the full potential value of the commercial product, as in very few of these places can the coal be brought out at much less than \$3.50 to \$4 per ton. Coal, thus, is a resource that is valuable or not, depending entirely upon how much human labor and capital resources in the form of tools are needed to bring it to the ground in usable form.

The same confusion with regard to resources has already crept into atomic energy, which is now undergoing a deification like that described in the discussion of hydroelectric energy.

EVERYONE knows that atomic power has technically arrived. Atomic power will drive, and I am certain very successfully, the submarine USS Nautilus, launched only a few months ago and atomic power, utilizing a different type of reactor, but not a different type of power-generating process, will drive the USS Sea Wolf, now in process of construction at New London and Schenectady.

But in the field of competitive power, where nuclear power or nuclear fuel is asked to meet a competitive test with other forms of power or other forms of fuel, atomic power not only is not here, but in my opinion is not going to be here for some time to come. A great deal of work lies ahead of us before practical, that is competitive, atomic power is here.

In the face of all that remains to be done: the untold years of work, planning, experimenting, inventing, building, trying, and after many disappointments trying again, to bring about the development, we have nevertheless had ample evidence of an attempt to surround atomic energy with the aura of a great national resource,

like the flowing waters in our rivers, to be kept in trust as so-called public property. This is not only counting chickens before they are hatched, but, what is even worse, it disregards all the forces that still have to be called into being, and all the work that still remains to be done before atomic power can be properly counted as a resource that will have other benefits except those related to national defense.

It is curious that the whole field of electric energy, even the very concept of the use and importance of electric energy, has been distorted and brought out of focus with realities. The idea that electric energy is not only important as part of our social-economic system, but that it is the key element employable in bringing about high industrial production and an improved economic position of a modern society, has been propagated so often—and so thoughtlessly—that one almost dare not question it for fear of being thought old-fogyish.

The fact that differences in the cost of electric energy have often influenced, and, indeed, in cases where electric energy enters as a significant component in cost of production have been the decisive factor in connection with, the location of competitive plants has undoubtedly contributed to this belief. But there is a world of difference between recognizing the magnetic attraction of cheap power to competitive industry on the one hand, and, on the other, attributing to it all of the bounties of our modern industrial system.

Now, what are the true facts with regard to electric energy in a modern society? In the United States today, and that would be the case in any industrial

OBSERVATIONS ON PRIVATE VERSUS PUBLIC POWER

society, electric energy enters into every step in any representative industrial process. Whether the operation is one using rather negligible quantities of electric power, such as is the case with the production of wearing apparel, or whether it is one that uses heavy quantities of electric energy, such as involved in the reduction of aluminum or magnesium, this single factor is common to almost all industrial operations. They cannot be carried out at all without some electric energy, small in many cases, but quite large in others.

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But it does not follow, as many speakers and writers would have us believe, that given electric power all else in our industrial system follows as a matter of course.

A study that I made only a few years ago, but which I feel reasonably certain would yield similar results today, will give point to the observation just made. In this study an analysis was made of the energy utilized, the cost of electric energy, and the percentage of cost of the energy to the total value of product for twenty different major industry groups. Excluding the electrochemical and the electrometallurgical processes, where electric energy enters into the process so as to virtually become a raw material, the results showed that on the average electric energy represents less than 0.8 per cent of the value of the product shipped.

Analysis of the rôle that electric power plays in the utilization of various appliances and tools produces equally enlightening results.

A modern electric shaver represents an investment of between \$25 and \$30. In the course of a year it will use about one kilowatt-hour; in the United States this can be obtained on the average at a cost under three cents. There is required approximately 13 cents of utility dedicated plant to provide this amount of electric service to the shaver. Obviously, the decisive factor in determining whether electric shaving is or is not going to be resorted to will be primarily the evaluation of the price of, and satisfaction resulting from, purchase and use of the shaver by the would-be user.

Or consider an electric refrigerator at an average price of between \$300 and \$400. It will use 360 kilowatt-hours per year at an annual cost of approximately \$10. The utility plant investment allocated to serve the refrigerator will on the average be about \$45. But it is apparent that that investment will not be brought into service and electric refrigeration will not come into service unless the prospective user of electric refrigeration evaluates the cost of the electric refrigerator and decides that the \$300 to \$400 investment will give him enough in consumer satisfaction

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"Depending upon conditions, private power can fully discharge, and it can fail to discharge, its responsibilities; it can do a great job, and it can fail to do the job well enough so that conditions arise when public power cannot only be justified, but when it is inevitable and perhaps indispensable. But here in the United States it seems to me we have had a development in power during the past third of a century unsurpassed anywhere."

to warrant his making it. The cost of the electric energy on the average is so small as to constitute a negligible item in the decision to proceed or not to proceed with the purchase.

Let's look at three items making significant contribution to industrial productivity: a 100-ton overhead crane in a steel mill, and a 28-inch swing turret lathe, and a 100-kilovolt ampere resistance spot welder. These three represent investments of about \$200,000, \$35,000, and \$5,000 and they will use on an average 60,000 kilowatt-hours, 100,000 kilowatt-hours, and 2,500 kilowatt-hours per annum, respectively. At one cent per kilowatt-hour this represents an annual power bill of \$600 in the case of the 100-ton overhead crane, \$1,000 in the case of the turret lathe, and \$25 for the spot welder.

If the use of these highly important items of industrial equipment increases, as it does, the productivity of a human being many-fold, what is the prime mover in bringing about this increased productivity? Is it the \$200,000 overhead crane, or the \$600-a-year electric power bill necessary to run it? Is it the \$35,000 turret lathe or its \$1,000-a-year electric power bill?

It seems to me to be quite clear that the prime mover in our industrial development and in our high industrial productivity is the large industrial plant and the skill that we have developed in its use. Behind them is freedom and enterprise that brought them into being. True, the tools are powered by electric power and without power they won't operate. Thus we come to this: Electric power can be critically controlling by absence or even deficiency. Despite the sometimes loose talk about "power shortages," the fact is that

seldom in the history of this country has any such absence or deficiency stood in the way of our industrial development.

HE point of this somewhat lengthy discussion is that while power is an indispensable factor in our industrial system, it is at the same time only one such factor in the elaborate complex of resources, human and material, which must be combined to achieve and sustain the high standard of living which we enjoy. I have felt it necessary to emphasize this point because it has almost come to be taken for granted that the government must be interested in power development as the cardinal sine qua non of a flourishing industrial economy. However important power may be, such a view is both an exaggeration and a distortion of its true rôle, bound to produce confusion in thought and in action on the subject.

Up to this point I have been concerned with disposing of some of the more serious doctrinaire notions which tend to cloud discussion of power issues. I should like to turn now to a consideration of some of the main arguments that are made for and against public power.

In advocating public power, it is sometimes said that public power is necessary because only when power is public can you look forward to adequate and effective planning ahead and development. If you examine the relationship between gross national product and electric energy production in the United States, you will find the following: Using 1929 as a base of 100 the gross national product went up by 1953 to somewhat over 350. In the same interval, electric power production went up to about 475. Please remember that gross

The Rule of Action

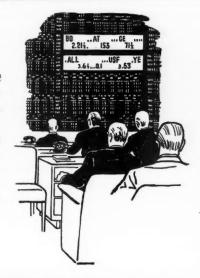
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A VALID reason for public power that might find particular applicability in the case of hydroelectric power would be an inability on the part of private power to execute. Plans are useless if they cannot be brought to fruition. For that there are needed three essential components: material, man power, and capital, with capital, of course, being merely the means of providing the material and man power."



national product is expressed in terms of an unstable and value-declining dollar, whereas the kilowatt-hour has not altered at all in value.

The result of this development is that, by the end of 1952, the per capita consumption of electric energy in the United States was the highest of any industrialized country, with the exception of Norway and Canada, and they are unique: The combined population of Norway and Canada in the year 1952 was only slightly, something like 10 per cent, that of the United States. And there exist special situations, with regard to hydro resources in both of these countries, which account for the higher per capita figures. And the figure of 3,000 kilowatt-hours per capita consumption prevailing in the United States compares with one of less than 1,-500 for the United Kingdom, less than 1,000 for France—in both countries electric power is nationalized—and with

slightly over 600 for Russia, where not only power but everything else is nationalized.

T HAVE already pointed out that since 1920, whereas the population of the United States went up approximately 50 per cent, the per capita production of energy went up over 500 per cent. But, in 1920 the United States was already in the forefront of electric energy development and accounted for over 56 billion, or almost 45 per cent, of the some 126 billion kilowatt-hours produced in the world. By 1952, with the world production increased more than eightfold to over 1,100 billion kilowatt-hours, the United States still accounted for close to 42 per cent of the electric energy produced in the world. If public power is needed for planning ahead and development, one first has to meet the record just cited in the light of the fact that 80 per cent of the electric energy produced in the United States has been produced, or is being produced, by private power. Perhaps the most dramatic demonstration of this point is the war record, as to which the director of the Office of War Utilities of WPB was able to say in 1943 that, ". . . in sharp contrast to the situation as to many other vital necessities . . . power has never been too little or too late."

Consider the argument that some projects are too big for private development. When in the atmosphere of economic paralysis that afflicted the country in the early thirties, electric capacity was being added at a rate of less than 100,000 kilowatts per year, the prospect of undertaking the development of a project running to 1,000,000 kilowatts was understandably forbidding.

The situation today is quite different, when the utility systems of the nation are adding new capacity roughly at the rate of 10,000,000 kilowatts per year. Or, if the measure of an undertaking is dollars, this argument becomes difficult in the face of the OVEC \$440,000,000 project which is being developed by private enterprise to supply the Atomic Energy Commission's diffusion plant near Portsmouth, Ohio, with roughly 25 per cent more electric energy per year than is used by the city of New York; or in the face of the offer to develop the \$440,000,000 Niagara project by five private utility systems in New York state.

HYDROELECTRIC development is frequently advanced as a philosophical justification of public power development. The proper sphere for federal functioning in river development where power is

involved has as yet not been legally resolved with any finality. But no one denies that navigation control and works directed toward that end are legitimate federal functions. It is, therefore, often assumed that, when governmental structures like dams are involved for navigation, any incidental power must likewise be governmentally developed and owned. This does not necessarily have to be so. The power facilities can be built separately and tied into the navigation facilities.

For example, in a 50-mile stretch of the Kanawha river in West Virginia, up and downstream from Charleston, three hydroelectric plants have been erected by a private power company under Federal Power Commission license, using private capital for the power facilities and the water from behind federally owned dams. For this, the federal government is compensated by payments arrived at by negotiation and contract with the Federal Power Commission.

HE related argument that potential hydroelectric power is something that is part of the public domain and that only public development will assure its use to bring about public benefit springs, as I have indicated before, from the semantic obscurity with which hydroelectric power has been surrounded. That is by the failure to differentiate between the minor, but admittedly real, natural asset which is represented by a flow of falling water in a river and the major and much more real asset represented by dams, spillways, powerhouses, electrical switchyards, and control centers necessary for its full development as a power project.

A valid reason for public power that might find particular applicability in the

OBSERVATIONS ON PRIVATE VERSUS PUBLIC POWER

case of hydroelectric power would be an inability on the part of private power to execute. Plans are useless if they cannot be brought to fruition. For that there are needed three essential components: material, man power, and capital, with capital, of course, being merely the means of providing the material and man power. In the development of the navigation features of the Tennessee river, the federal government was engaged in a legitimate sphere of activity, specifically delegated to it by the Constitution, and did with propriety develop the power incidental to the navigation function. If an attempt had been made in the middle thirties to develop the navigation and flood-control features of the Tennessee river system separately from the power features, there is at least a grave question whether private enterprise at that particular time would have been able to execute such a power program.

If national interest required the development of the river, there was, to the extent that the power development was in fact an incidental part of the whole program, perfectly good reason for government development. But, of course, this basis for federal government development has virtually disappeared since the late thirties.

It is argued that private development is not possible in the case of a *whole river*. If you would make a comprehensive and co-ordinated development of a river, it is claimed that a single agency must do so, and who else but the federal government, or sometimes perhaps a state, can assume such a task? The argument is partly sound, but it trails off into nonsolid territory.

A single agency may be needed for such a task, but it can be a corporate agency owned by a dozen or more stockholders or owners with different percentages in the common equity.

HE case of the Wisconsin river in Wisconsin is a notable example. Here Wisconsin Valley Improvement Company, owned by nine industrial (mostly paper) and power companies and operating under revocable charter granted by the state of Wisconsin, has developed 21 reservoirs and 26 hydroelectric plants on the river. The whole complex is operated as a unified co-ordinated whole and in doing so it not only generates power, but controls floods, provides recreation facilities, performs sewage disposal functions-and it does all of that within the framework of state and federal laws, including the tax laws.





"Hydroelectric development is frequently advanced as a philosophical justification of public power development. The proper sphere for federal functioning in river development where power is involved has as yet not been legally resolved with any finality. But no one denies that navigation control and works directed toward that end are legitimate federal functions. It is, therefore, often assumed that, when governmental structures like dams are involved for navigation, any incidental power must likewise be governmentally developed and owned."

An argument frequently used for public power is that private power cannot be relied upon for fairness of rates, that a yardstick is therefore needed, and that public power constitutes such a yardstick. Yardsticks, which are useful and important instruments in commerce, are checked against standards which are maintained with meticulous care. If we are to use a yardstick in power, it should, like the physical yardstick, be sharply defined, carefully controlled, and applied, or else its use will lead to error and deception. But that is not what we do: In electric power yardsticks, in spite of their great influence, critical items of expense like interest and taxes are omitted or treated haphazardly as if they had no influence.

As for a yardstick being needed, there is grave question as to whether another vardstick beyond the one we have fully in the tradition of our democratic system -I refer to the yardstick of regulation through publicly constituted regulatory bodies-is needed to give adequate guaranty of fairness of rates. Certainly, an examination of the over-all private power industry figures for the years 1952 and 1953. showing a return on depreciated plant of 5.83 and 5.85 per cent, respectively, is warrant for the conclusion that the regulatory yardstick is working and that it can be relied upon without the supplement of a birch rod in the closet.

PERHAPS one of the strongest arguments for public power develops when private enterprise is not alive to its responsibilities. This may be due to lack of imagination and, therefore, inability to plan ahead, or perhaps a definite lack of desire to assume obligations and responsibilities. When such a situation occurs there may be

an adequate basis for public power coming in. In this connection the private power industry failed in the early thirties in many places to plan optimistically ahead, and so failed in too many places in the country to discharge its responsibilities to provide for the distribution of electric power to the rural population. Had the social responsibility been recognized as a necessity. and had it been accompanied by adequate imagination, plans would have been forthcoming and somehow means would have been found that would have made unnecessary the extensive development of what is known as the REA program. But if there was justification at one time for the REA program of extension of distribution facilities, the same cannot be said for REA excursions into the generating and transmission phases of the business, for which there was almost no justification at any time, and none exists today.

HE premise is worth repeating at this point which I asserted at the outset -the general view that government should not extend into those affairs and operations which can be done as well under private auspices. Among many deep reasons for our traditional resistance to extension of government, one of the most important is our common experience that government operation almost invariably means that political forces exert undue pressures on the conduct of affairs in which fundamental planning should be based on economics, judged by economics, and checked by economics. This concern should be as acute in the field of power as in any other. In this, Lenin's memorandum in 1920 on a power plan to Krzhizhanovsky, "Couldn't you produce a plan (not a technical but a political scheme) which would be under-



The True Rôle of Electric Power

of the use and importance of electric energy, even the very concept of the use and importance of electric energy, has been distorted and brought out of focus with realities. The idea that electric energy is not only important as part of our social-economic system, but that it is the key element employable in bringing about high industrial production and an improved economic position of a modern society, has been propagated so often—and so thoughtlessly—that one almost dare not question it for fear of being thought old-fogyish."

stood by the proletariat?" had its counterpart in the 1930's in our own famous Passamaquoddy project, which was started and abandoned. Even though adversely reported upon by the Federal Power Commission in 1941, it has apparently been recently revived when the Senate approved and sent to the House a bill authorizing an expenditure of \$3,000,000 on a survey to determine its feasibility all over again.

SOONER or later planning influenced or controlled by political considerations tends to result in a breakdown of the very thing that the planning was designed to promote. The recent experiences with power shortages in our own Northwest where the federal government had almost completely pre-empted the field of power generation, and the experience of the British in 1951 under nationalized operation and completely centralized planning, when the winter-peak requirement of 13,500,000 kilowatts was short by about 2,000,000 kilowatts, illustrate this point.

In the field of rates we again find that political considerations will tend to be such that in setting price attempts will too frequently be made to keep down the group of prices which enter into a cost-of-living index, that is, the group of prices which affect the most voters, and thus to defeat the price mechanism as a regulator of services bought and so to develop or aggravate a crisis.

Again, to cite British experience, the fuel crisis which was experienced by the British industry early in 1947 was, it is generally believed, made the worse because of the distortion of the tariff structure in the direction of domestic consumption.

X E can see similar effects in the United States. In an attempt to develop a residential market in the TVA territory, a 4-mill-per-kilowatt-hour price has been set by TVA's retail distributors for the next 1,000 kilowatt-hours purchased by the residential consumer after the first 400 kilowatt-hours per month. Then TVA gives the distributor a rate of 2 mills per kilowatt-hour for the residential energy he sells at 4 mills per kilowatt-hour. When that energy becomes a predominantly fuel energy and the fuel item alone costs 2 mills or more per kilowatt-hour, it is obvious that something quite different from economics has become the basis of the rate structure and the basis for developing widespread residential electric home heating.

A basic difficulty with public power is that it is subsidized power and that cannot be in the public interest. I have already cited some examples from British and our own experience. The most common form of subsidy of public power is the tax route. Interestingly enough it is now being claimed that public power operation is more desirable because it can be carried

out without paying taxes—this argument has in fact recently been utilized by the governor of New York. It is quite clear that tax savings as such do not exist. So-called savings, by going to a governmental setup, merely result in the general taxpayers, rather than those benefiting from the project, paying in additional taxes the subsidy granted the tax-free power project. A general application of the tax-free subsidy principle would result in complete disorganization of all government.

But it is in the economic field that public power tax avoidance does the greatest damage. Consider this example. In a typical private power system you may assume that its capital structure consists of 50 per cent debt and 50 per cent equity capital, and you may also assume that the necessary annual return on this capital is 6 per cent. If the interest rate is 3 per cent on the debt capital, 1.5 per cent will be earned by the debt portion and 4.5 per cent by the equity capital portion. Where we also have a 50 per cent income tax rate, 4.5 per cent has to be earned additionally as the necessary federal income tax component if the equity component of 4.5 per cent is to be available. Assume that the state and local taxes are reasonably modest and amount to 2 per cent, but that a federally owned power project would not pay more than one-half per cent-this, too, is reasonably close to the facts-there is then an additional 11 per cent tax component on investment in the privately owned facilities that does not exist in the case of the government-owned project. The total of the two tax components is another 6 per cent—that is 6 per cent in addition to the 6 per cent annual return required to support the capital investment.

OBSERVATIONS ON PRIVATE VERSUS PUBLIC POWER

Now take a very simple system consisting of a generating plant forming part of a high-voltage network and assume that the cost of capacity is \$140 per kilowatt for power plant and \$60 per kilowatt for transmission and related facilities, or a total investment of \$200 per kilowatt. It can readily be seen that 6 per cent tax burden on \$200 of investment per kilowatt represents a charge of \$12 per year. If this kilowatt is to operate at a very high load factor, that is at 8,000 hours per year, this represents a difference in cost due to taxes of 1.5 mills per kilowatt-hour. One and a half mills may not sound like a great deal of money but the difference in a rate for electrochemical or electrometallurgical operation of 1.5 mills, that is the difference in rate between 5.5 mills per kilowatt-hour and 4 mills per kilowatt-hour, not only might make a difference of as much as three-quarters of a million dollars a year in the power bill in a modest industrial installation, but is likely to be a decisive factor in helping to bring the operation to the subsidized power location. The net effect of this condition is like that of an irresistible magnet to draw industry requiring particularly heavy quantities of electric energy from other locations that but for taxes are equally as well situated and might perhaps otherwise be even more favorably situated. This same phenomenon tends also to extend the area of operation of the sub-

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sidized project. It can readily be seen why other areas being subject to such competitive forces might be tempted to ask the governmental subsidized operation to extend its sphere of activity.

Thus, unless there is specific legislative delimitation of the sphere of activity of a subsidized operation there can be no practical limit to such area unless those responsible in government decide to call a halt.

But it is not natural to expect those administering a project to delimit themselves and perhaps they could not legally do it even if they desired to do so.

THE proposition that public power comes nearest to protecting the public interest is not only open to question but there is good reason for believing that the reverse is more likely to be the case. One of the first things that happens when any given undertaking becomes public is an immediate fuzziness of thinking, with the state and public interest automatically merged. Certainly, it does not always follow that government—the state—always acts in the public interest. As the London Economist pointed out sometime ago, "It is far nearer the truth to say that 'the state' merely consists of a number of government departments, each of which tends to put its own interest above those of the public. No one would dream of asserting that the state's interest and the public in-

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"Private power, which represents private investor-owned facilities dedicated to public use, is under the regulation and supervision of a large number of publicly created bodies forming major parts of our state and national governments, with the object of protecting the public interest; public power in most cases is subject to no comparable regulation."

terest are identical where the civil and political rights of the individual citizen are concerned. Indeed, the history of freedom is one long list of devices—from trial by jury and habeas corpus to the judges' rules of evidence—based on the assumption that the state cannot be trusted to serve the public interest. . . . Yet in economic matters the doctrine appears to be accepted that whatever a Minister of the Crown may take it into his head to do is ipso facto in the public interest."

Even from the standpoint of labor and labor's interest there is beginning to be a realization that public ownership and operation of the means of production offer far more of a threat than a promise. That brilliant longshoreman-philosopher Eric Hoffer recently gave expression to the concern with such state undertakings in saying:

The battle between Socialism and Capitalism is to a large extent a battle between bosses, and it is legitimate to size up the dedicated Socialist as a potential boss. One need not call to mind the example of Communist Russia to realize that the idealist has the making of a most formidable taskmaster. The ruthlessness born of self-seeking is ineffectual compared with the ruthlessness sustained by dedication to a holy cause ... The most formidable employer is he who, like Stalin, casts himself in the rôle of a representative and champion of the workers.

What Hoffer observes from the particular point of view of the worker seems to me to express the true danger in the socialist approach for all elements in our society. Of course it may not be fair to equate public power with Socialism, or to set up as an inevitable sequence that power being socialized, much else in the state will become socialized. But there seems to be small question as to what Socialism involves.

By the definition of one of its outspoken defenders, Socialism stands for the public ownership of the public means of production or means of distribution of "commanding heights" of the economic order. And among all of these power is always included. It would seem almost inevitable that having obtained one of the principal heights, the obtaining of the others is bound to be simpler. But if Socialism as a social-economic instrument designed to promote the health and welfare of society is no better than the exemplifications of it that we have been able to develop, how can the public interest be served by taking any unnecessary step that might lead to that order?

EPENDING upon conditions, private power can fully discharge, and it can fail to discharge, its responsibilities; it can do a great job, and it can fail to do the job well enough so that conditions arise when public power cannot only be justified, but when it is inevitable and perhaps indispensable. But here in the United States it seems to me we have had a development in power during the past third of a century unsurpassed anywhere. In the course of the last two decades the government power component of that has grown where it represents today about 20 per cent. Some of that growth was inevitable; some might have been necessary when it first began, and some was certainly unnecessary. The question as to whether public power

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should be extended, it seems to me, can be answered in the words of the President's recent message to Congress on the Atomic Energy Act, when referring to atomic power he said:

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y. er But, in this undertaking, the enterprise, initiative, and competitive spirit of individuals and groups within our free economy are needed to assure the greatest efficiency and progress at the least cost to the public. But it can also be answered on the basis of whether private power regulated in the public interest can basically fully discharge, and whether it has been discharging its responsibilities to the people of the United States. It seems to me that as long as private power can do the kind of a job it has been doing the argument for the extension of public power cannot be supported by any reasonable expectation of a corresponding enhancement of the public interest.

Wishful Prophets

46 WE do not believe that predictions of a recession will bring about a recession either. If people want to buy things and have the money to buy them—and there are indications that they have both the money and inclination—then other people will make and sell the things that people want to buy. They will be so busy at the task that they will not even have time to listen to the impassioned oratory of economic doom.

"Nevertheless it is becoming quite clear that there are some people in this country to whom a recession would be a not unwelcome development and who are acting as people usually act when the wish is father to the thought.

"These are the gentlemen, and ladies also, who only a few short years ago were cutting a wide swath about Washington fixing prices and allocating materials. In between times they wrote articles and made speeches informing us that the free economy was as dead as the dodo and the country could be thankful that there were farseeing gentlemen around who would consent to take us over and save the people from themselves.

"It seems to us that a great many of the pessimistic opinions that have gained some passing notice come from those very sources. Could it be that in their rosy dreams these people see themselves called back to Washington to resume high titles in new alphabetical agencies? Not to keep the reader in suspense, we think it could be....

"This newspaper does not pretend to know what the future holds for trade, business, and industry. Furthermore we do not know anyone else who does know. Some people can make better guesses than others and some have the knowledge to make educated guesses. The views of such people are worth while although if they are right half the time, their average is good."

—EDITORIAL STATEMENT, The Wall Street Journal.



Partnership Provides Solution to Northwest Power Situation

An account of how concerted action between five investor-owned electric utilities is meeting the challenge of partnership and local co-operation in the Pacific Northwest. The author is the president of the newly formed Pacific Northwest Power Company, as well as head of one of the sponsoring utilities.

By KINSEY M. ROBINSON*
PRESIDENT, WASHINGTON WATER POWER COMPANY

HEN President Eisenhower, in a campaign address delivered at Seattle, Washington, October 6, 1952, called for "the full use of private resources plus a local-state-federal partnership" to accomplish the tremendous task of providing power for the growing Pacific Northwest, he presented at once a hope and a challenge to the believers of our American system of free enterprise and individual initiative.

That hope is shared—and the challenge is being met—by five investor-owned electric utility companies in the area. These companies are pooling their resources, experience, and personnel to assure their 800,000 electric customers an adequate

supply of electric power for the future.

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The vehicle by which these companies are moving to meet the growing power requirements of area thus served is the Pacific Northwest Power Company, which was incorporated at Salem, Oregon, April 13th to finance and develop large power projects in the Columbia basin. The company has been formed with \$50,000,000 in capital stock and proposes \$300,000,000 to \$500,000,000 construction.

Sponsors of the joint venture are The Montana Power Company, Mountain States Power Company, Pacific Power & Light Company, Portland General Electric Company, and Washington Water Power Company.

The companies now have a total of 1,-400,000 kilowatts of generating capability

^{*}For additional personal note, see "Pages with the Editors."

PARTNERSHIP PROVIDES SOLUTION TO NORTHWEST POWER SITUATION

and anticipate a joint need of from 150,-000 to 200,000 kilowatts of new power annually to meet the growth in their service areas. The companies serve nearly 50 per cent of all electric users in the Pacific Northwest.

PRESIDENT of the new generating company is this writer who is also president of Washington Water Power Company.

Serving on the board of directors as vice presidents are J. E. Corette, president and general manager of Montana Power; Paul B. McKee, president of Pacific Power & Light; Thomas W. Delzell, chairman of the board of Portland General Electric, and A. W. Trimble, president of Mountain States Power.

The generating company's plans first were announced to the public on December 7, 1953, during a meeting of the northwest states' governors in Seattle. At that time, executives of the utilities announced their intention of combining their efforts to organize a generating company under the administration's partnership program to develop all the power their customers would need for the next twenty years.

Demonstrating that this enterprise was designed to meet the area's need for power by action, rather than by words, the sponsors moved within two weeks. On December 21st, the five companies filed an application with the Federal Power Commission for a preliminary permit to investigate two multiple-purpose sites on branches of the Clearwater river in northcentral Idaho.

The two sites—Bruces Eddy on the north fork of the Clearwater and Penny Cliffs on the Clearwater's middle fork—now are under investigation. Preliminary engineering studies have indicated that the

projects would develop 536,000 kilowatts of power, in addition to providing valuable flood-control and headwater storage benefits.

THE Pacific Northwest Power Company's proposal is for a true partnership arrangement with the federal government. The company would assume the costs connected with the development and production of electric power on multiple-purpose projects, with the federal government, through appropriate agencies, undertaking the irrigation, flood-control, and navigation features.

The program calls for participation by the Pacific Northwest Power Company in those multiple-purpose projects that lend themselves to the partnership arrangement because of their size or other factors.

The Pacific Northwest Power Company is a long-range undertaking, not limited to investigation of the Clearwater sites.

"We'll be looking at all the dam sites in the Northwest," this writer told northern Idaho residents earlier this year. "We expect to consider sites throughout the region on their merits.

"No private companies can build flood-control and other nonreimbursable features of multiple-purpose dams unless they get some help from the government. We have been given to understand that the government, in some way, would take care of nonreimbursable costs in new partnership projects. The government might contribute either cash or power credits. We think there will be an equitable working out of the problems."

THE need for a program such as that outlined by the five companies lies in



Local Support for Area Co-operation

**The 5-company program and organization of the Pacific Northwest Power Company have been greeted by a majority of the Pacific Northwest people with enthusiastic endorsement. There are some opponents—public power and public ownership advocates, who object to the idea, and some segments of the fishing industry and wild-life proponents, who have questioned the 5-company plans on the Clearwater river. But the great majority of the comments have been favorable."

the dynamic growth of the Pacific Northwest area, the constantly increasing demand for electric power to meet the requirements of increased population and industrial expansion, and the power supply situation as it appears to leaders of the area today.

On April 20th, members of the Pacific Northwest Governors Power Policy Committee, meeting in Victoria, British Columbia, received a report from its engineering committee that graphically told the power story of the area.

I^N the past ten years—from 1943 to 1953—peak load in the Northwest has grown from 2,667,000 kilowatts to 6,162,-

000 kilowatts, an increase of 131 per cent. Over a 33-year period studied by the engineers, the compounded rate of load growth has averaged better than 7 per cent each year, and in the last ten years, the annual increase has averaged more than 8 per cent.

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The engineering group told the governors that the area's rate of growth would be accelerated in the next two years and then would settle down to a steady annual growth of from 5 to 6 per cent. The area looks for its peak load to increase to 13,545,000 kilowatts by 1964.

What does this mean when it is related to power supply? On March 1st of this year, the area had 7,084,000 kilowatts of

PARTNERSHIP PROVIDES SOLUTION TO NORTHWEST POWER SITUATION

capacity in operation and an additional 3,-893,000 kilowatts under construction.

This means, the engineers reported, that the area should do well until 1960 but at that time, power loads will exceed the capabilities of existing and scheduled power plants. The power shortage anticipated after 1960 unless new starts are made would be in the western region, in the states of Washington, Oregon, and northern Idaho, where the heaviest concentration of population and industrial activity exists.

The problem of meeting this anticipated shortage is a tremendous one. Power plants on which intentions for development have been expressed total 45, with 8,359,000 kilowatts of capacity. This list includes both federal and nonfederal development, and, of the total, only 4,512,000 kilowatts can be installed in six years—or by 1960 if construction is started immediately.

The area has 20 other potential projects totaling 3,182,000 kilowatts, but no definite plans have been made for these.

The conclusion of the engineers was that, by 1964, the Pacific Northwest area will have a shortage of some 2,000,000 kilowatts of dependable capacity unless action is taken immediately. The consensus is that it will take 3,000,000 kilowatts of installed capacity to supply the shortage.

THERE is another important factor to be considered. The schedule of appropriations required to complete federal multiple-purpose projects under construction and planned is huge and would have to reach a figure of more than \$200,000,000 annually. Officials of the five com-

panies believe it would be impossible to get from Congress this amount.

Therefore, they reason, a generating company plan such as the Pacific Northwest Power Company's is absolutely necessary if the area is to meet successfully the threat of a power shortage within the next ten years.

The Pacific Northwest Power Company estimates that, under present circumstances, it will take five years to build the facilities necessary to produce needed power in substantial quantities. Therefore, it hopes to find suitable projects which can be approved and completed so that additional power will be on the line when required.

Sponsors of the generating company plan, looking back at President Eisenhower's statements and evaluating the power policy and partnership utterances of Interior Department officials, point out that the administration has shown a realistic attitude toward the problem of local responsibility in supplying power requirements, and they feel that the administration's partnership plan is absolutely necessary if the Pacific Northwest power situation is to be met.

Admittedly, the generating company has some tremendous problems in connection with its program. Pioneering, as they are, this new method of meeting the area's power requirements, the sponsors must blaze a trail on a number of questions. There is, for example, the question of how far the government will go in working out a partnership arrangement and what terms it will set up in financing the nonreimbursable features. There is the important question of headwater benefits, with equality for government and private plants in

sharing the payments for headwater stor-

The financing problem undoubtedly will be a major one, but the sponsors anticipate no difficulty in securing support for feasible power projects.

Investment houses and banking concerns generally have gained confidence in the future of the Pacific Northwest, and a joint enterprise such as proposed by the five companies apparently has great appeal to investors. The sponsoring executives have had inquiries and unofficial opinions from several investment groups that indicate keen interest in the Pacific Northwest Power Company.

The sponsors are encouraged by the fact that other large-scale undertakings such as Electric Energy, Inc., and Ohio Valley Electric Company (OVEC) have been financed successfully. The Pacific Northwest Power Company, however, differs from these enterprises in that the Northwest Company is dealing in hydroelectric power rather than steam generation and has the long-time job of supplying domestic, commercial, and industrial energy to the people of the area with power sales assured by the sponsoring utilities.

The 5-company program and organization of the Pacific Northwest Power Company have been greeted by a majority of the Pacific Northwest people with enthusiastic endorsement. There are some opponents—public power and public ownership advocates, who object to the idea, and some segments of the fishing industry and wild-life proponents, who have questioned the 5-company plans on the Clearwater river. But the great majority of the comments have been favorable.

Assistant Secretary of the Interior Fred G. Aandahl recently called attention to the Clearwater applications, among others, in a statement in which he pointed out that steps taken by local interests to develop 4,150,000 kilowatts of capacity in the Columbia basin indicates that the administration's partnership program and new power policy are working.

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Governor Len Jordan of Idaho said of the 5-company program: "I'm pleased about it. I've said before that I thought they should combine into a group big enough to build such projects."

And from the Corps of Engineers came further endorsement. Colonel F. S. Tandy, director of the Walla Walla division, said "The interest shown by these companies is evidence that the partnership program of the administration will work."

THE following newspaper comment is further indication of the support which this enterprise is receiving.

From Callison Marks' column, "Columbia Comment," in the Spokane Spokes-man-Review:

The private power firms appear to be serious and determined in their attempt to meet the power needs of their operating areas. . . . Lower-level enterprise is fast taking over the responsibility for creating more power for the entire region. These recent events are an encouraging sign of the times.

From the Portland, Oregon, Journal:

This (application for a preliminary permit on the Clearwater sites) represents real pioneering. To our knowledge, this is the first time private enterprise has taken the initiative in offering to finance the power factors of two

PARTNERSHIP PROVIDES SOLUTION TO NORTHWEST POWER SITUATION

great multipurpose projects, and in asking the federal government to finance the nonreimbursable flood-control, navigation, recreation features. . . . an economy-minded Congress should welcome this privately financed venture.

From the Spokane Spokesman-Review editorial columns:

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Actual formation this week of a 5-company, private-power, dam-construction corporation is good news for this area. . . . Thanks to the new economic and political climate being fostered by the Eisenhower administration, these companies may now have a chance to venture into the construction of such projects as the proposed Clearwater dams. . . . This new enterprise promises to make a substantial contribution to an expanding era of economic progress in the Northwest.

Meanwhile, the search for feasible hydroelectric sites goes ahead. THE five companies already are tied together physically through integrated transmission facilities as part of the Northwest Power Pool. They also are tied together closely through their common desire to assure the finest possible service for their customers, and to build, operate, and maintain all of the facilities that can be handled by local enterprise without burden on the federal Treasury or the taxpayers of the nation.

Their principal objective is to assure the Pacific Northwest's growing economy an adequate supply of electric energy to have the power on the line when and where it is needed.

They look upon the Pacific Northwest Power Company as an example in action—not words—that the investor-owned utilities of the nation are ready, willing, and able to carry out to the fullest their responsibilities to the millions of American people who rely on them for electric service.

Importance of Coal to Electricity

COAL is moving to more and more farms through new pole lines, and is doing more and more jobs on the farms in the form of kilowatt-hours.

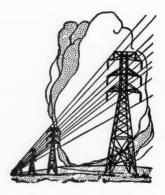
"Coal is moving more and more into general industry, large and

small, in the form of kilowatt-hours.

"The electric power industry is coal's fastest-growing consumer. Within a couple of years, it will use more coal than the railroads ever consumed, and within ten years, it will use more coal than the railroads and the householder ever used together.

"The efficiency of converting coal into kilowatt-hours is improving each year so that with some expected improvements in coal transportation economics, one can expect the cost of coal in the form of kilowatt-hours to be continually reduced in relation to the cost of other fuels. Thus the kilowatt-hour should become a better and better buy across the land. Coal's future here is bright and secure!"

—Joseph Pursglove, Jr., Vice president, research and development, Pittsburgh Consolidation Coal Company.



An REA Look at Industry Co-operation

It just does not make sense that two groups with a common interest should not be able to work together. Here is a plea for just such a co-operative approach to the completion of the task of electrifying rural America.

By ANCHER NELSEN*
ADMINISTRATOR, RURAL ELECTRIFICATION ADMINISTRATION

REPRESENTATIVES of the power companies have said that they recognize the REA borrowers as an important segment in the utility business. Representatives of the REA borrowers have said that they now are grown-up, self-reliant businesses capable of holding their own anywhere.

Personally, I take these statements at face value. I believe that they represent the feeling of progressive people on both sides. There are plenty of examples where power company-REA borrower dealings have been on a sensible, grown-up basis. Most of the emotionalism has been discarded. Instead, there has been a practical, businesslike approach to problems in an

earnest effort to reach solutions that are fair to all concerned.

I am of the belief that this kind of industry co-operation offers farmers, utilities, and indeed the country, too, advantages that are important and that are lasting.

AFTER President Eisenhower asked me to take this job, I had not been here very long before it became obvious to me that one of the contributions I might make to rural electrification would be to help make REA borrowers and the power companies more aware of their common problems and needs.

This view grew out of experience I had had back home before I came to REA. I am proud of the fact that I helped make a

^{*}For additional personal note, see "Pages with the Editors."

AN REA LOOK AT INDUSTRY CO-OPERATION

little history by being among the Minnesota REA borrower representatives who got together with our local power company officials and appeared before a congressional committee to support the same bill. I think our "Minnesota Plan" of mutual consultation and joint action as fellow businessmen might well be applied more widely.

Our of my experience of the give-and-take of the conference table comes the conviction that there are no problems between REA borrowers and the power companies which cannot be solved by men of good will. But there must be good will on both sides, and that means forgetting past grudges, forgiving past mistakes, and starting anew with a clean slate.

I am not so naïve as to think that this middle-way approach can be accomplished overnight, but I do insist that it is necessary for reasons of good business, common sense, and enlightened self-interest.

The main reasons for my conclusions are as follows:

First, the power market potential in the REA field is very good. REA borrowers have increased their dollar purchases of power from power companies fivefold since 1946. This is just the beginning. Their purchases will continue to go higher as the rural load grows. At the present time, they amount to \$54,000,000 a year.

It would seem to be good business to develop an atmosphere which approaches the normal relationships between wholesaler and retailer.

Second, the potential for attractive rates to the co-op consumers is good. Our experience to date indicates that when you can work out ways of integrating the town and country load, your chances are best for reasonable rates. Co-ops that are buying wholesale from power companies are averaging wholesale rates second only to the co-ops getting their power from the big federal power projects like TVA and Bonneville.

If we as farmers are concerned, as I firmly believe all of us are, about what we pay for the electric power we use on our farms, it would seem to me to be good business to develop an atmosphere for improving those rates.

THIRD, there is much to gain for everybody through working together. Emergencies of the past have demonstrated that the utility industry cannot be divided into isolated compartments. Integration of some form pays off. The entire utility industry—this applies to both the power companies and the REA borrowers—has an obligation to serve the needs of the people in the best interests of the country.

Fourth, the cost of a one-sided program is more than any of us want to pay.

It seems to me that the public has a right to expect a common-sense alliance for the common good among public, private, and nonprofit power operations. Whenever any one of these three groups gets out of line with public thinking, we can count on a setback in public relations that often leads to additional legislation and regulation.

My point is that industry co-operation does have advantages to all concerned. Now I don't mean to propose that either the REA borrowers or the power companies give up any bargaining advantage they rightfully hold. America owes a lot to the fact that it has had good horse traders, and good bargaining will con-



The Three Power Service Groups

right to expect a common-sense alliance for the common good among public, private, and nonprofit power operations. Whenever any one of these three groups gets out of line with public thinking, we can count on a setback in public relations that often leads to additional legislation and regulation. My point is that industry cooperation does have advantages to all concerned."

tinue to be important to the utility field. On the other hand, let's take advantage of the possibilities there are in co-operation.

What are some of the opportunities for building this kind of industry co-operation? There are many, as those who have explored these fields more fully than I will amply attest. But just to get the ball rolling, I will set out a few examples of where I believe the power companies and the REA borrowers can find grounds for understanding each other's problems and for working out mutually advantageous plans of operation.

An obvious starter for this kind of a list is a joint effort in the promotion of more power use. For years we have known that sensible load building is to the interest of the co-op, its wholesale supplier, and the farmer-consumer. Yet we've had very, very few cases of concerted work to promote such programs. I'm afraid the unreasonable attacks and the slogans have stood in the way. Whatever the reason, there is need for a job now, and that job can be best done on a co-ordinated basis.

THEREFORE, to power companies and REA borrowers interested in building better relationships, I suggest some serious effort around the conference table to work out joint programs for helping consumers make better, wiser, and greater use of the electricity available to them.

We in REA tried to get some interest stimulated in this field not long ago with a conference of REA co-op representatives, power company representatives, and appliance manufacturer representatives, all meeting together at Chicago. We hope that this start will lead to some local programs, and judging by reports that we have received from Kansas and other states, progress is being made.

AN REA LOOK AT INDUSTRY CO-OPERATION

ANOTHER area in which co-operation could mean immediate results is in the field of power supply.

Not long ago, I made the following statement to the REA borrowers and I would like to make it now to the power companies:

Another point that I wish to call to your attention is the need for a rational approach to the problem of power supply.

It becomes increasingly apparent that the future power supply cannot be adequately developed by agitated controversy, by distrust of one another, or by policies that make a long-range planning difficult or even impossible.

Healthy, normal, and economically sound growth can be brought about by the farmers, REA, Interior, municipalities, and commercial utilities sitting down around a conference table—planning the future and forgetting the past. No one segment of the industry can do the job alone. Each can make contributions of needed facilities and still maintain independence and freedom of action.

We in co-operative electrification are grown-up. We are strong, and as long as we are unified we have more to gain than lose by working with others. Only in this way will we be able to meet a difficult problem and arrive at the solution we want—low-cost power.

Great benefits could be accomplished by power supply committees set up in each state or area working toward sound and proper objectives through an industry-wide approach. It should be recognized that co-operatives in some sections of the country have already acted. Results have been good. Let us now take further positive steps in this direction.

It seems to me that in areas where there is a power supply problem, one of the most sensible steps that could be taken would be for the suppliers of the area to get together in a committee, whether it is formal or not, to appraise the situation and, if necessary, devise some co-ordinated program for meeting the problem.

ANOTHER point on which co-operation is an essential ingredient is in connection with integration, which I have already mentioned. One of the greatest opportunities for mutual advantage lies in the integration of the power company and the rural electric generating system.

Let me cite an example—one of several that could be described. Minnkota Power Co-operative, with headquarters at Grand Forks, North Dakota, recently faced up to the fact that it was near the limit of its generating capacity. It found advantages in establishing working relationships with other utilities in the area, public, private, and nonprofit.

It interconnected with the two major power companies in the area, Otter Tail Power Company and Northern States Power Company. It tied in with Central Power Co-operative of Minot, North Dakota, and got benefit of the plant located in the heart of the western Dakota lignite fields. It tied in with several towns in the area.

What resulted was an interconnection of the systems of the two power companies, the two co-op generating plants, and the towns concerned. Thus they pooled their reserves, interchanged power, and effected a savings for all.

PUBLIC UTILITIES FORTNIGHTLY

In short, integration saved the cost of an additional generating unit and everyone benefited.

Building co-operation, even if it is to our advantage, cannot be accomplished, as I have indicated before, in an atmosphere of suspicion, distrust, and antagonism. All of us need to think how we might eliminate the irritations which only create more of the distrust.

Take, for example, some of the radio programs and advertising campaigns you have heard that unfairly picture the farmers' electric systems. Farmers hearing and reading this cannot help but feel resentment that will not help build an atmosphere of co-operation.

On the other hand, I am sure it contributes little to a congenial working relationship for a rural electric system to use the emotional appeal in creating unreasoned distrust of those who are charged with the responsibility of operating the power company system.

I have heard it often expressed that perhaps the greatest obstacle to industrywide co-operation is the fact that there are some people—and I presume this applies to both sides—who have a vested interest in continued controversy. Whether or not this is so, it seems to be clear that from the standpoint of the bona fide farmer, he has a vital stake in seeing to it that a good working relationship is established.

It just does not make sense that two groups with a common interest are unable to work together. To say that it is impossible is to leave the public with the impression that each side is committed to a policy of total extermination of the other. Such a confession would be a sad reflection on the capacity of free enterprise, which includes both the power companies and the co-ops, to meet its responsibilities.

I have touched upon but a few examples of areas where there is opportunity for real improvement in industry co-operation. There are many more. What I have sought to do is merely to challenge both power companies and the REA borrowers to exercise their mature judgment and their good business sense. They have something to gain from co-operation. So if they have a desire for co-operation, there is ample opportunity.

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More valuable than income tax legislation, more important than labor laws, more far-reaching even than changes in national power policies, would be the development of better regulation of utilities, properly divided between federal and state responsibilities, to the point of strengthening public and investor confidence. For, without sound regulation there can be no really healthy regulated company and without good corporate health, the service to the public will suffer."

—Eugene S. Loughlin, Chairman, Connecticut Public Utilities Commission.



A Look at the New Federal Power Policy

The present administration's policy of partnership and co-operation should provide greater opportunities for early construction of needed multipurpose projects at less expense to the federal taxpayer.

By ROBERT DE LUCCIA*
VICE PRESIDENT, PACIFIC POWER & LIGHT COMPANY

In a paper delivered before the American Power Conference in March, 1953, reviewing federal power practices over the past decade, a conclusion was reached that a situation had been created which was not sound national policy. As a consequence it was suggested that although the present administration had inherited serious problems, it was not committed by the practices of its predecessors. Rather, it had the responsibility to study the whole matter of federal power; and where necessary or desirable, to make changes.

Among other matters, the paper discussed the policy directive of the former administration which was set forth by Secretary of the Interior, Harold L. Ickes, on January 3, 1946, in his "Memorandum on Power Policy to All Staffs of the Department of the Interior." The policy enunciated in this memorandum was based on including all the acts of Congress relating to electric power, regardless of whether their administration was entrusted to or involved the Department of the Interior. From this omnibus collection, Secretary Ickes issued instructions as the primary operating basis for the agencies of the Department of the Interior.

Centralization and control of the generation and distribution of electric power were basic objectives of the previous administration, to be accomplished initially wherever it was possible to construct a

^{*}For additional personal note, see "Pages with the Editors."

¹Paper titled "Are Federal Power Practices Sound National Policy?" dated March 23, 1953, by E. Robert de Luccia.

PUBLIC UTILITIES FORTNIGHTLY

federal multipurpose project, and attention was given to replacing existing private company electric utility operation wherever possible. Said the Secretary in his policy memorandum:

Active assistance, from the very beginning of the planning and authorization of a project, shall be given to the organization of public agencies and co-operatives for the distribution of power in each project area. The statutory objectives are not attained by merely waiting for a preferred customer to come forward and offer to purchase the power.

Such groups were established in business by condemning facilities or taking customers, or both, from existing private utilities.

THE policy of the former administration was superseded on August 18, 1953, when President Eisenhower issued a statement announcing his full support of our new policy released that same day by Interior Secretary McKay.

Of basic importance is the President's statement of the principle that the federal government has primarily a co-operative responsibility in contrast to the former administration's insistence that it was the duty of federal government to supply electric power as a utility responsibility. The present policy recognizes the responsibilities of the states and local communities and private citizens in providing for their power needs.

The former administration permitted the Secretary of the Interior to assume arbitrary powers, causing committees of Congress, on more than one occasion, to speak sharply. For example, the House Committee on Interior Department Appropriation Bill, 1949, included in its report this significant wording:

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Statement of policy.—The committee desires to re-emphasize its statement in former reports on the bill, that the reclaiming of arid lands by the construction of reclamation projects is and always has been the primary purpose of the reclamation laws. Development of hydroelectric power is incidental to irrigation and is made as a means of financially aiding and assisting such undertakings. This policy should not be departed from without specific legislation by the Congress.

The present policy limits the Secretary of the Interior to those matters involving electric power "for which the Department of the Interior is the responsible agent under the law." Further, President Eisenhower announced that he cleared Secretary McKay's policy with the "Various Cabinet officers and agency heads . . . directly concerned," again recognizing cooperation even within government.

THE keynote of the present policy was emphasized by Secretary McKay when he said:

This will involve a partnership of the states and local communities, private citizens, and the federal government, all working together. It is not a policy of monopoly by any one of these parties. In fact, the job to be done is so tremendous that it will require the very active efforts of all of the parties if the nation is to be kept abreast of its needs. (Emphasis supplied.)

A discussion of some points of differ-

A LOOK AT THE NEW FEDERAL POWER POLICY

ence between present and past power policies may be useful in assessing the present situation. The present policy, however, has not been in effect long enough to have developed a definite pattern of practices, and comparisons of actual practices must of necessity be relatively few.

Secretary McKay's policy statement with respect to generating facilities reads:

The primary responsibilities of the department are the reclamation of arid and semiarid lands under the federal reclamation laws and the development of natural resources as authorized by Congress. These responsibilities include the disposal of surplus electric energy which can be economically produced in the course of the development of these resources. The Department of the Interior will, therefore, actively plan and recommend construction of generating facilities in hydro projects under its jurisdiction when such facilities are economically justified and feasible. The department will particularly emphasize those multipurpose projects with hydroelectric developments which, because of size or complexity, are beyond the means of local, public, or private enterprise.

It is recognized that the primary responsibility for supplying power needs of an area rests with the people locally.

The responsibility of the Department of the Interior is to give leadership and assistance in the conservation and wise utilization of natural resources. The department does not assume that it has the exclusive right or responsibility for the construction of dams or the generation, transmission, and sale of electric energy in any area, basin, or region. In general, it will not oppose the construction of facilities which local interests. either public or private, are willing and able to provide in accordance with licenses and other controls of the Federal Power Commission or other appropriate regulatory bodies and which are consonant with the best development of the natural resources of the area.

THE former policy memorandum read:

Hydroelectric generating facilities shall be designed and installed in all projects where feasible. The project shall have its own steam stand-by and reserve facilities where necessary to independent operation on an economical and efficient basis.

This can be contrasted with the present policy which does not include provision for construction of steam stand-by and

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"Very definitely the policy of this administration with respect to electric power is different from that of the previous administration. How and the extent to which practice will implement the policy remains to be seen. Certainly it is evident that the administration does not favor the abolition of private utility enterprise and is not taking steps to use the weight of resources of the federal government to compete unfairly. On the other hand, it seems evident that private utilities may expect no special consideration and will have to take care of themselves. . . ."

reserve facilities and which places the emphasis on electric energy produced in the course of the development of the natural resources as authorized by Congress.²

In contrast the former administration attempted to assert a federal utility responsibility and intervened in proceedings before the Federal Power Commission. Former Secretary of the Interior Oscar L. Chapman intervened in proceedings before the Federal Power Commission, claiming the primary interest in several cases involving application for license to construct hydroelectric projects by nonfederal interests. Among these were the so-called Roanoke Rapids, Kings river, and Hells Canyon projects. When the commission decided to grant a license to the applicant in the Roanoke river case, the Secretary took the matter to the courts. In the course of arriving at a decision, the fourth U. S. circuit court said:

The only responsibility of the Secretary relates to the disposal of surplus power for government projects; and no duty or responsibility with regard thereto can possibly arise until the government has authorized the project and entered upon its construction. Until then he has no more duty or responsibility in this connection than has the Postmaster General.

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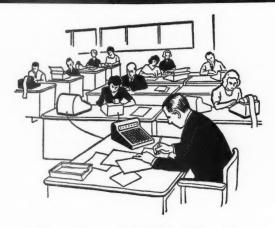
The U. S. Supreme Court upheld the decision of the circuit court.

In support of this policy, Secretary McKay gives the following citations: Address by the President—State of the Union Message to first session of 83rd Congress; Reclamation acts of 1906, 1939; House Committee on Interior Department Appropriations Bill, 1949; address of Secretary McKay at Boston, Massachusetts, May 14, 1953; Bonneville Act of 1937; Fort Peck Act of 1938; Flood Control Act of 1944; Senate Committee on Interior

Following the court's decision in the Roanoke Rapids Case, the intervention of the Department of the Interior in the Kings river and Hells Canyon cases was withdrawn by Secretary McKay. In so doing he recognized the duties and responsibilities of the Federal Power Commission and, also, the fact that the responsibilities of the Department of the Interior under the law were not of indefinite extent.

N addition to rejecting the utility responsibility thesis and the arbitrary assumption of powers, the new policy rejects the concepts that nonfederal public agencies are incapable of managing their own businesses and must remain inferior associates of a federal power utility as evidenced in such provisions in the previous policy as: "Resale rate and other provisions shall be included in wholesale contracts with distributors . . .," and "Public agencies and co-operatives shall be encouraged to build diversified loads and markets and neither the operations nor the markets of these agencies or of the government facilities shall be restricted by contracts or operating agreements which might serve to limit the widespread use of the power from the federal project," and "Public agencies and co-operatives which are existing or potential customers of the federal project shall be given every assistance in promoting sound programs and operations."

It may be of interest to observe that there have been no important changes in the laws or statutes and yet widely divergent power policies have been produced. The previous policy provided for a centralized federal monopoly even though not supported by statute. The pres-



Fairer View of Project Benefits

culating benefit-cost ratios in presentations to Congress as to feasibility of multiple-purpose projects, appears to be undergoing change. Until the present time the value of federal power has been computed by including federal, state, and local taxes on alternative sources of power while omitting all such charges, except a negligible amount in lieu of local taxes, in connection with proposed federal projects. This inconsistent use of taxes to provide a benefit value to federal power is now being recognized."

ent policy recognizes the limitation of responsibilities under the laws. Thus it would seem a conclusion is warranted that the attitude and respect of the executive branch of the federal government toward the legislative and judicial branches are important factors. In its very nature a philosophy based on the principle of possessive paternalism would be expected to be less tolerant of the responsibilities and rights of others than one founded on the concept of partnership and co-operative sharing of responsibilities and powers.

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Not usually thought of and generally speaking, nonfederal public power

agencies can be divided into two categories. One group includes those agencies which obtain practically all of their power from federal projects such as the public utility districts in Washington and the peoples utilities districts in Oregon, some of the REA's, and the agencies served by the Tennessee Valley Authority, or which are mainly federally financed such as the REA's. The other group consists of what might be termed independent agencies, including municipalities and state power authorities. Representative of this second group are such agencies as Los Angeles, California; Tacoma, and Seattle, Washington; Eugene, Oregon; Jacksonville, Florida; Nebraska Public Power Authority; and South Carolina Public Service Authority. Many others could be named, but these are representative.

The first-mentioned group has favored fastening a utility responsibility onto the federal government and has generally been content to handle only distribution to the consumer as the distribution division, so to speak, of a federal power electric utility. The latter group, generally speaking, distrusts federal power motives and strives to be as self-sufficient as possible and to be subject to a minimum of federal interference.

Congress has never clearly indicated which agency in the federal government should be responsible for allocation of costs in multiple-purpose projects. With respect to power, the Interior Department has heretofore insisted that it make allocations on the basis that as marketing agency, it must compete with existing rates in order to market federal power. Apparently little consideration was given to what might be the actual costs. As a result, we find the situation in the Southwest where the Southwestern Power Administration allocated to power only \$218,000,000 out of \$725,000,000 for a group of 12 projects in the Southwest and computed annual charges at \$8,262,086 as compared to the cost allocations of the Corps of Engineers, which constructed these projects, and which allocated to power \$418,000,000 and computed annual power charges at \$17,823,105. In 1949 the Federal Power Commission gave temporary approval to rates computed on the basis of the SPA allocations.

What the final action of the Federal Power Commission will be in regard

to the foregoing cannot, of course, be accurately predicted. However, its course with respect to future rate and allocation determinations has been indicated. On November 25, 1953, the commission adopted the report of its staff allocating the power costs of the McNary project on the Columbia river. Notable here is the fact that it made its own allocation as contrasted to its action on the Southwest projects for which it tentatively approved rates based on the allocations made by the Interior Department. Further, it used a method, the so-called "Separable Costs-Remaining Benefits Method," which was developed by a subcommittee of the Federal Inter-Agency River Basin Committee, including representatives from all the interested federal agencies. The application of the formula resulted in allocating about 92 per cent of the total construction cost to power. Public power extremists are raising a loud outcry against this division of costs, demanding that allocation be made on an arbitrary basis more favorable to power without regard to division of costs based on those portions of the project devoted to power, as was done in the case of the Bonneville project some fifteen years ago.

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Recently the three primarily interested agencies, the Department of the Interior, the Corps of Engineers, and the Federal Power Commission have agreed to use common methods in computing cost allocations. The point emphasized is the recognition on the part of each of the interested agencies that all have co-operative responsibilities in such matters. This marks an important step since it completely refutes the previous administration's insistence that the Department of the Interior has the controlling responsibility.

A LOOK AT THE NEW FEDERAL POWER POLICY

N matters relating to so-called "preferences" in the sale of power to public bodies, Secretary of the Interior McKay, in connection with establishing marketing criteria for federal Missouri river basin power, attempted to modify the provisions and practices of the department under former administrators, in order to recognize long-standing arrangements between the Bureau of Reclamation and certain private utilities operating in a spirit of mutual assistance. The suggested modification would have assured some federal power to other than preference customers, but even under these exceptional circumstances the proposal met with very vigorous opposition from the preference customers, and the Interior Department modified its criteria to provide that the requirements of the preference customers to the limit of availability of federal power will be recognized over other requests. The uncompromising attitude of the preference customers undoubtedly came as a shock to the Interior Department.

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The handling of taxes relating to power features in respect to calculating benefit-cost ratios in presentations to Congress as to feasibility of multiple-purpose projects, appears to be undergoing change. Until the present time the value of federal power has been computed by including federal, state, and local taxes on alternative sources of power while omitting all such

charges, except a negligible amount in lieu of local taxes, in connection with proposed federal projects. This inconsistent use of taxes to provide a benefit value to federal power is now being recognized. Following a request from the Bureau of the Budget, the interested agencies are studying ways in computing benefit-cost ratios to balance the tax component by including provision for equivalent taxes on federal projects equal to those which would be paid were the projects to be developed by private agencies.

HE matter of power supply in the Tennessee valley area now appears to be before Congress on its merits. Since practically all of the hydro resources have been developed, Congress has continued to provide additional power resources in the form of steam plants on the basis of defense needs. Defense needs as such do not now appear to be a compelling factor. Consequently, the issue is whether the federal government shall continue as the power supplier in the Tennessee valley area. The proponents of TVA are exerting all the pressure they can to force this utility responsibility onto the federal government. However, Congress appears reluctant, and in the latest House appropriations act, only funds sufficient to complete steam plants under construction have been included.

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"SINCE no precise formula for a partnership has been given by the administration, opponents of the principle profess to see an indefiniteness which will result in unworkable arrangements. Those who wish to see a continuance of federal domination spare no opportunity to create doubt and fear. The facts, however, show that the partnership plan is welcomed and substantial progress is being made. . . ."

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It is of interest to note that a serious attempt was made recently by the administration to require TVA to repay interest charges in addition to the construction charges on those parts of the costs of multiple-purpose projects allocated to power. Interest charges are included as part of power repayment costs in connection with federal projects in other parts of the country. The proposal was lost in a parliamentary technicality relating to procedure. The growing reluctance of Congress to have the federal government continue as a supplier of electric power to the TVA area indefinitely, and the proposal to place TVA-generated power on an equal footing with the other federally produced power in the matter of interest charges, are significant developments.

In the Northwest the situation differs from that in the Tennessee valley. Besides the federal supply of power, nonfederal agencies, both public and private, together serve half the customers from wholly owned generating facilities, and substantial amounts of potentially feasible hydro power resources are yet to be developed.

The electric energy needs of this region, as in other sections of the country, are growing by leaps and bounds. To meet power needs up to 1964, it is estimated that construction must be started on 3,000,000 to 3,500,000 kilowatts of new installed hydro capacity in the 6-year period from 1954 to 1960. Looking beyond 1964 construction of new capacity must be at an annual rate of at least 700,000 kilowatts of installed capacity. As a result of the partnership proposal, nonfederal public and private utilities in the area have indicated sponsorship of projects by appli-

cation to the Federal Power Commission. or by request for authorizing legislation in Congress to construct 35 projects totaling over 5,500,000 kilowatts, of which about half would be developed by private utilities. The total expenditures for these projects would be about \$2.5 billion, including transmission. This amount is in addition to projects already under construction by federal and nonfederal agencies in the area. Approximately \$600,-000,000 yet remains to be expended to complete federal projects now under construction and to provide necessary transmission. The amounts of capital required for the expanding power needs are very substantial and the nonfederal public and private utilities are proposing, on a partnership basis, that funds required for power be raised by nonfederal agencies so that the federal government need supply funds only for nonreimbursable features such as flood control and navigation.

ABILL (S 3368) has been introduced in Congress to provide for the development of the Coosa river in Alabama and Georgia by other than the federal government. This bill is on the basis of a partnership and provides for modification of the existing authorization for the Howell Mill Shoals project to permit the Federal Power Commission to issue a license for its development, providing that, among other things, flood-control storage would be furnished at least equally as effective as could feasibly be provided by the presently authorized project.

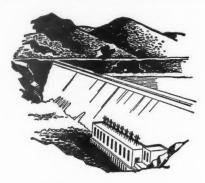
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Somewhat similar bills have also been introduced in Congress relating to the Cougar dam and reservoir on the South Fork McKenzie river, Oregon (HR 7815), and the Green Peter dam and



Spelling the Taxpayer

CTHE administration's policy of partnership and co-operation if permitted to develop, should provide greater opportunity for earlier construction of needed flood-control, reclamation, and navigation projects by freeing the overburdened federal Treasury of having to supply the total amounts of money required to construct these projects. Increased opportunity is given for local initiative, including private utilities, to demonstrate the American heritage of getting on and doing the job."

reservoir on the Middle Fork Santiam river, Oregon (HR 8661). These bills would provide for construction and ownership by the federal government of the dams and reservoirs and licensing of the power facilities by the Federal Power Commission.

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Since no precise formula for a partnership has been given by the administration, opponents of the principle profess to see an indefiniteness which will result in unworkable arrangements. Those who wish to see a continuance of federal domination spare no opportunity to create doubt and fear. The facts, however, show that the partnership plan is welcomed and substantial progress is being made looking toward providing needed power facilities in co-operation with the federal government.

Of general interest is the recent decision of the Supreme Court with respect to Niagara Falls and the decision of the ninth circuit court at San Francisco in the Pelton Case on the Deschutes river in Oregon. The courts held that federal power laws had not pre-empted the whole field relating to water rights and that certain aspects of hydro projects are, under specified circumstances, still subject to state law. It may well be that the fate of certain projects may be greatly affected at the local level, and it would appear, in some instances, that state approval may be required before the Federal Power Commission could issue an effective license.

The administration seems to be well aware of the large sums of money

required to develop the nation's water resources, including installation of powergenerating features. In this respect, at the American Power Conference in March of this year, Secretary McKay said:

The federal government can participate in a number of these proposed projects. The most desirable of these proposals anticipate that local interests will finance the costs allocated to power with the federal government providing the money for irrigation, flood control, and navigation. Capital costs of any federal investment in irrigation will be returned by the local interests from irrigation and power sales.

He also said, in reference to such proposals, "... local people will have freedom to operate their own affairs." In his talk he mentioned several examples of partnership proposals in California and in Oregon and in Washington where public bodies have made partnership suggestions and commented that "In addition to the participation of public bodies, a healthy interest in the partnership program is being manifested by private power companies."

Speaking generally, he concluded:

This acceptance of the partnership concept of developing the nation's water resources is exceedingly encouraging. Not only will it lessen federal control over regional business, but the taxable income will be increased and funds will not be tied up interminably.

THERE has not been a sufficient time for practice to follow policy and permit of assessing with any degree of accuracy the final pattern of administration practices in the electric power field. However,

the power policy statement is clear and partnership proposals are being made in substantial amount. It is clear that the administration has an appreciation of the magnitude of the tasks before it if it undertakes to supply even a very small fraction of the power requirements of the United States, and it is equally clear that the administration expects local people to provide most of their energy requirements. It is agreeable to undertake projects which are "too large or too complex" as a means of developing water resources for flood control, navigation, reclamation, and power, and would have such undertakings financed completely by the federal government. The proposals for construction of multiple-purpose projects by public and private nonfederal agencies include the largest projects yet remaining to be developed and it does not appear that the federal government need consider that it must construct any hydro project just because it may be large.

HYDRO power is rapidly becoming a smaller percentage of our total energy resources and, by 1963, according to a recent estimate made by Westinghouse Electric Corporation, in connection with planning its industrial manufacturing plant expansion, hydroelectric power generation will only be about 18 per cent of total power generated and thereafter will rapidly diminish in importance as a matter of percentage of national power supply. The hydro potential in the Tennessee area is practically completely developed and within two years will probably be less than one-third of the installed capacity of TVA. However, in the Northwest, where the largest amount of undeveloped hydro power potential in the nation is found, it may

A LOOK AT THE NEW FEDERAL POWER POLICY

be expected that the development of hydro power will be the most important source of new power supply for many years.

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THE policy of the administration in respect to the use of atomic fissionable-type fuels for the generation of electric power appears to be definitely in the direction of permitting and encouraging the attention and interest of private industry. The Atomic Energy Commission has approved and contracted for research work with a relatively large number of study groups made up of private utility companies and industrial companies. Recently, in response to invited proposals, the Atomic Energy Commission awarded a contract to the Duquesne Light Company for the development and construction of a 60,000-kilowatt reactor for use in generating electric power.

Very definitely the policy of this administration with respect to electric power is different from that of the previous administration. How and the extent to which practice will implement the policy remains to be seen. Certainly it is evident that the administration does not favor the abolition

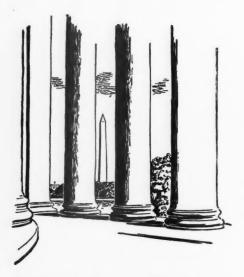
of private utility enterprise and is not taking steps to use the weight of resources of the federal government to compete unfairly. On the other hand, it seems evident that private utilities may expect no special consideration and will have to take care of themselves as in the past, by continuing to give efficient, economical service; helping the communities and areas in which they serve to grow and prosper; provide sufficient power with adequate reserves; and, in short, continue to demonstrate that federal aid and special subsidy for electric power supply, transmission, and distribution are unnecessary.

The administration's policy of partnership and co-operation if permitted to develop, should provide greater opportunity for earlier construction of needed flood-control, reclamation, and navigation projects by freeing the overburdened federal Treasury of having to supply the total amounts of money required to construct these projects. Increased opportunity is given for local initiative, including private utilities, to demonstrate the American heritage of getting on and doing the job.

The Importance of Moral Fiber

THIS mid-century generation stands on amazing accomplishments, but faces alarming problems. We have wiped out a city with a single bomb, but how can we use this fact to heighten our civilization? In emphasizing force, efficiency, and speed, are we losing a humility, simplicity, and tranquility without which we cannot indefinitely hold our own? The solution lies in each individual. The excessive materialism of the modern world is a reflection of the excessive materialism in modern man. To achieve a civilization based on human values requires the desire within ourselves. The character of man still forms the essential core of a lasting civilization."

—CHARLES A. LINDBERGH, Brigadier General, U. S. Air Force Reserve.



Washington and the Utilities

Atomic Energy Hearing

Public hearings on revision of the Atomic Energy Act of 1946 opened last month before the Joint Committee on Atomic Energy. Under consideration was the bill draft sent to Congress by President Eisenhower and introduced as HR 8862 and S 3323. Among other things the amendments would open the way to private enterprise participation in the atomic power field.

Obstacles in the way of early private entry into this field, a government monopoly at present, were apparent. The testimony of the witnesses and the questions of the committee members went directly to the heart of the public power versus private power debate. Questions centered upon "preference" rights for public bodies; federal competition; the status of nuclear fission as a "natural resource"; municipal participation; and the effect of private participation upon existing statutes (state and federal) relating to electric power.

The inevitable questions of state and federal regulation of a private "A" power industry arose. A good case was made by Walker L. Cisler, president of Dow

Chemical-Detroit Edison & Associates. for state regulation with federal supervision of national health, safety, and security or defense phases. Representative Holifield (Democrat, California) suggested an AEC tier of regulation, if not supplanting, perhaps overlapping the state jurisdiction. It is not AEC's intention, reportedly, to seek such broad jurisdictional power, conflicting with that of state commissions, but to administer the licensing of materials and leave rates to the state commissions.

The AEC amendment bill was termed "a legislative landmark of major importance" by Dean E. B. Stason of the Michigan University Law School and chairman of the atomic energy committee of the American Bar Association. He recommended a 6-year period of compulsory licensing of patent rights on developments made by private companies in consideration of initial large public investment. Walker Cisler's comments were critical concerning the government ownership of nuclear materials. He said the bill's licensing provisions were "confusing, vague, and perhaps even unworkable." Paul W. McQuillen, legal adviser

WASHINGTON AND THE UTILITIES

to Cisler, commented that these provisions make it all but impossible to borrow money to finance a private atomic development.

THE public power camp opposition was directed mostly towards the so-called patent monopoly features of the Atomic Energy Act. By coincidence or otherwise, the congressional hearings were held during the same week the Electric Consumers Conference met in Washington, D. C., for a 2-day "workshop meeting." The conference added to its lengthy statement of principles, adopted in 1952, a declaration opposing any restriction of government-industry co-operation in the atomic energy program to investor-owned utility companies. Public ownership witnesses appeared before the congressional committee to urge such views.

The Electric Consumers Conference is an association of 22 organizations, including the American Public Power Association, the National Farmers Union, and the National Rural Electric Co-operative Association. Speakers ranging from former President Truman to Senator Langer (Republican, North Dakota), CIO President Walter Reuther, Representative Holifield, and Leland Olds (former FPC chairman), assailed the administration's water resources program, denounced the growth of "private power monopoly," and expressed grave concern because publicly owned systems have not been included in a government program to develop commercial electricity from atomic energy.

Sold on Clark Hill Pact

S^{OME} of the Georgia co-op delegates attending the Electric Consumers Conference in Washington last month seemed to be unhappy over the likelihood that Interior will go through with its proposed contract with the Georgia Power Com-

pany over the sale of Clark Hill dam power. Such co-op representatives may or may not truly represent the rank and file in Georgia, but they seem to be resigned to an eventual court test of the proposed contract. The contract itself was slated to be determined for final approval by Interior Secretary McKay.

But the Georgia dissident co-ops have been swayed into agreement by the argument of their counsel, former Governor Ellis Arnall, that the law gives co-ops "title" to power from federal dams as soon as it comes into existence. He wants no part of any agreement which would make the co-ops customers of an intervening commercial power company. On the other hand, the Georgia Power Company is not disposed to assume the rôle of a mere carrier of somebody else's power under a so-called "wheeling agreement."

AND so some of the Georgia co-ops seem disposed to take a calculated risk by seeking to block the enforcement of the carrying out of the contract by legal proceedings. The risk is twofold. First, they could be thrown out of court as disinterested parties. More serious, from the co-op point of view, is the possibility that a federal court might construe the "preference clause" to mean exactly what the words seem to indicate—a mere opportunity for a preference between two prospective purchasers of power who are ready, willing, and able to buy at the dam the power offered for sale.

In any event, previous Secretaries of Interior have always been careful to protect their interpretation of the "preference clause" from getting into a court test where a judicial review of their definition of "preference customers" might result. Litigation in the Clark Hill controversy could prove to be a boomerang from the public ownership point of view.



Wire and Wireless Communication

REA Explains Revised EAS Contract

HE Rural Electrification Administration reports that REA telephone borrowers and the Mountain States Telephone & Telegraph Company are making progress toward the attainment of more satisfactory "extended area service" agreements. Conferences have been held with officials of the company to explore the possibility of obtaining reciprocal EAS agreements as the basis for establishing toll-free service between recognized communities of interest which are within reasonable distances of one another. Although the officials of Mountain States have not accepted the principle of reciprocal EAS agreements as being applicable for their company, they have offered a revision of the EAS contract presently in use. In most instances, REA officials state, this revised contract will result in lower EAS costs and will make it more feasible to provide extended area service in those situations where this service is justified.

The revised EAS contract offered by Mountain States provides that where exchanges involved serve a comparable number of stations, each company will provide (by ownership or lease) one-half the interoffice trunks and assume its own terminating and switching costs. Exchanges

will be considered comparable where the small exchange serves at least 40 per cent of the total stations in the extended service area. Where the exchanges involved are not of comparable size, the small exchange company provides by ownership or lease interoffice trunks between its central office and the base rate area boundary of the larger exchange. Where carrier equipment is used to provide such trunks, annual charges on the carrier system (including space and power) will be apportioned between the two companies on the basis of the route mileage of the physical circuits involved. The small exchange will also provide repeat coils, signaling and trunk-terminating equipment required in its office to make such trunks operative.

THE large exchange company, in cases where the exchanges are not of comparable size, will provide under the revised contract, the portion of the inter-office trunks between the junction point at the base rate area boundary and its serving central office. Like the small exchange, it will also provide repeat coils, signaling and trunk-terminating equipment required in its central office. No switching charge will be made at either exchange.

The station relationship at the time of establishing the EAS arrangement and December 31st each year thereafter shall determine application of the above provisions. Where one company leases trunks to the other the monthly rental charge shall be at the rate of 60 cents per quarter-mile or fraction. Other equipment lease rental rates shall be determined on the basis of the annual charge rates applied to the cost installed of such equipment.

REA officials emphasized that announcement of the EAS contract revision offered by Mountain States was not to be taken by telephone co-ops as an invitation to propose such contracts except in those instances which conform to the criteria for EAS previously set up by REA. "The amount of EAS provided in any borrower's system must be held to a minimum in order to reduce construction costs and subscriber rates as much as possible." Assistant REA Administrator J. K. O'Shaughnessy stated. "As we have previously indicated, borrowers should seriously consider the establishment of toll service between exchanges, except where the cost of EAS is most favorable," O'Shaughnessy explained.

Declaring that Mountain States has indicated its willingness and intention of working with REA borrowers in efforts to improve and extend rural telephony, O'Shaughnessy said REA feels that the progress made to date represents a workable basis on which additional improvements can be made as borrowers and the Bell system companies gain experience. "REA will continue efforts to obtain the acceptance of uniformly standard connecting company agreements that will be more favorable to the small rural systems," he said, adding that "a better understanding of our mutual aims by all concerned will aid in the attainment of this objective."

FCC Rules on "Foreign Attachment" Regulations

THE Federal Communications Commission has ruled that telephone companies cannot bar customers from using telephone-answering devices if their use is authorized by local or state agencies. The Jordaphone Corporation of America and Mohawk Business Machines Corporation, both of which sell telephone-answering equipment, attacked the legality of the "foreign attachment" provision employed by the American Telephone and Telegraph Company and its Bell system subsidiaries in their regulations for interstate telephone service. These interstate regulations ban "foreign attachments" not furnished by the telephone company, which has automatic answering devices of its own.

In its 3-1 ruling on the 4-year-old case, the FCC said these devices are largely intended for use in local phone service and ruled in effect that the judgment of local or state authorities should prevail.

Specifically, the commission stated:

We conclude . . . that the foreign attachment provisions in the present interstate and foreign toll telephone message tariffs of the defendant telephone companies are unjust, unreasonable, and, therefore, unlawful to the extent that they may be interpreted to prohibit the installation and use by the subscriber, of a telephone-answering device not furnished by the telephone company in any community or state in which the use of such answering device with respect to intrastate or exchange telephone service is authorized by appropriate local or state regulatory agencies or commissions.

Commissioner Hennock dissented. Commissioners Webster, Doerfer, and Lee did not participate in the decision.



High Lights of Reports to Stockholders

Institute convention we again review some of the outstanding features of the reports to stockholders issued recently by leading electric utility companies. The cover pages of the reports continue the high artistic standards of recent years. Outstanding perhaps are the beautiful landscapes shown by Pacific Power & Light, Public Service of Colorado, and Pacific Gas and Electric.

In the inside pages, pictures, charts, and tables continue to attract reader attention and very few reports nowadays are confined to prosaic income accounts and balance sheets. Among the well-balanced statistical tables, Southern California Edison's 2-page combined table and chart is of interest, showing 10-year figures and ratios for plant account, capitalization, income and expense, plant capacity, and output. Richard Rosenthal, president of Citizens Utilities, has continued his usual policy of issuing a detailed statistical report, with numerous charts describing the progress of his widely scattered utility enterprises, which include electric, gas, telephone, water, and ice. The report of Michigan Gas & Electric Company (of which he is chairman) follows similar lines.

Financial News and Comment

BY OWEN ELY

President Tegan of General Public Utilities has developed an interesting "Information Series" which summarizes descriptive data on each page under headings such as "Capitalization with 46 per cent debt is conservative" or "Depreciation reserves appear adequate considering large amount of property added in recent years."

The annual report to stockholders, in small leaflet form, is tucked into a pocket on the inside cover.

A NUMBER of reports stress the trend of industrial development in their areas. Some utilities are so proud of their area's rapid growth that they feature it on the cover page. Thus, Florida Power Corporation reports that Florida continues to be one of the two fastest-growing states in the nation—and that the permanent population is growing twice as fast as the transient. Florida Power & Light's cover has a slogan "Bountiful Florida—Land

Page High Lights of Reports to Stockholders 760

DEPARTMENT INDEX

of Fabulous Growth—Natural Gateway to the Americas." Puget Sound Power & Light's cover compares its area's growth of 61 per cent in 1940-50 with 37 per cent for the state of Washington and 15 per cent for the U. S.

The growth of industry in Texas is a modern miracle far outweighing such temporary episodes as "dust bowl" difficulties. Houston Lighting benefited first by the vast development of oil and gas, later by petro chemicals and metals. On page 15 of its report is an interesting chart showing the derivation of numerous chemicals from crude oil and natural gas. Oil and gas now furnish the raw material for more than half the organic chemicals used in the country, which go into the manufacture of such common-place articles as dresses, rubber hose, paint, dishes, food wrappers, etc. Hydrocarbon molecules of gas and oil could supply over half a million chemical compounds if a use for all of them could be found.

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Public Service Electric & Gas devotes two pages of its report to the great industrial potential in New Jersey, particularly in the "Elbow Room," just across the Delaware from the new Fairless Works of U. S. Steel at Morrisville, Pennsylvania. Suppliers to the steel industry as well as producers of metalfabricated goods are moving in. Public Service is conducting a national newspaper and magazine advertising campaign to publicize the advantages of this area as a plant site.

Carolina Power & Light devotes two pages of its report to describing its industrial and community development programs. "Industry has indicated, other things being equal, that it will locate in towns where a high degree of civic pride is in evidence . . . the typical industry thus attracted (affords) an annual stimu-

lus to business in the community estimated at \$1,000,000."

Important new through ways and express highways are directly benefiting some of the smaller utilities, such as Rockland Light & Power and Central Hudson Gas & Electric. Doubtless more will be heard from this in the next year or so with the tremendous volume of turnpike financing and construction now getting under way. Some of the larger cities such as Pittsburgh, Chicago, Philadelphia, and Boston have bestirred themselves, and important new civic centers, highways, etc., are planned or already under construction. Philadelphia Electric Company's report devotes two pages to pictures of the huge skyscraper development being planned for "Penn Center" on the site of the old Pennsylvania Railroad Broad street station.

THE New England companies are probably a little sensitive about implications that their area is industrially backward, just because it has lost some textile business to the South. Central Vermont Public Service's report devotes space to "industrial growth in Vermont" and also sketches the company's own quarter-century of growth and progress. Central Maine Power, in discussing the future of industry in that state, quoted from the reports of Bates Manufacturing Company (cotton and rayon textiles), Bath Iron Works Corporation (shipbuilding), Keyes Fibre Company (moulded pulp products), and S. D. Warren Company (paper manufacturers).

Irwin L. Moore, president of New England Electric System, devotes part of his letter to stockholders (in the annual report) to the "industrial new look" in New England:

To our high-grade textile and leather products we have added automatic ma-

PUBLIC UTILITIES FORTNIGHTLY

chinery, intricately fashioned tools and parts, precision instruments, and electronic equipment and plastics . . . any suggestion that New England economy is lagging is disproved by our position amongst the leaders in such measures of prosperity and stability as individual home ownership, personal savings, life insurance in force, and annual per capita income, in all of which New England ranks above the national average.

Other reports feature new industrial developments in their areas. Stuart Cooper of Delaware Power & Light devotes two pages of its report to pictorial evidence of the industrial development of the Delmarva peninsula. Minnesota Power & Light's report mentions that taconite (the huge development of low-grade iron ore now being opened up) "was seen by the editors of Life magazine as one of the most significant aspects of United States life in the next twenty-five years of the atomic age."

Utilities with rather substantial industrial business devote some space to the diversification of industry in their areas. Ohio Edison's report describes the diversified character of its industrial business. While Ohio ranked as the second most important industrial state in 1952, with

over \$10 billion added by manufacturers to the value of products, there is also a substantial farm economy. West Penn Electric points out that the 82 new industrial firms which decided to locate in its area during 1953 were engaged in an extremely wide diversity of operations. Chairman Justin Whiting of Consumers Power refers to the decentralizing movement of industry into small towns, and gives a number of instances in the area served by the company.

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While the proposed SEC program under § 30 for the encouragement of mergers does not seem to have progressed very far, nevertheless the trend toward acquisition of small utilities by large systems is continuing. Among the more important utility mergers initiated last year were Pennsylvania Power & Light's acquisition of Scranton Electric, Mountain States Power's merger into Pacific Power & Light, and the acquisition of control of Pacific Public Service by Pacific Gas and Electric.

The question of taxation is important to the utilities, though there seems to be little they can do about it. Consolidated Edison has the largest burden of local taxation of any utility—it paid \$65,000,000 in local and state taxes last year com-

CURRENT YIELD YARDSTICKS

	May 14, 1954	1953-54 Range		1952 Range	
		High	Low	High	Low
U. S. Long-term Bonds-Taxable	2.51%	3.15%	2.42%	2.78%	2.56%
Utility Bonds—Aaa	2.89	3.43	2.86	3.08	2.93
Aa	2.95	3.59	2.92	3.11	2.99
Α	3.14	3.72	3.14	3.31	3.21
Baa	3.52	3.94	3.50	3.58	3.46
Utility Preferred Stocks-High-grade	3.99	4.45	3.89	4.24	3.94
Medium-grade	4.29	4.87	4.27	4.71	4.33
Electric Utility Common Stocks	4.95	5.72	4.95	5.62	5.07

Latest available Moody indices are used for utility bonds and stocks; Standard & Poor's indices for government bonds.

pared with \$45,000,000 to the federal government. The company remains one of the few to publish complete details on taxes—a policy which it would be worth while for others to follow. General Public Utilities on page 13 of "Information Series No. 7" shows share earnings before and after income taxes, indicating that these taxes take well over half the amount that would otherwise be available for shareholders. (In addition, stockholders pay income taxes on their dividends.) Middle South Utilities' report also contained a chart comparing net income with federal income taxes.

A comparatively new topic is the deferment of taxes resulting from accelerated amortization of new plant for which "certificates of necessity" have been issued by DPA. The utilities, in general, are keeping these tax savings out of net income and reported share earnings, although in some cases the latter are stated "before and after." Pacific Power & Light Company describes in considerable detail the accelerated amortization of its huge Yale project, as well as the financing of the enterprise. As a corollary effect of the heavy amortization, the company's dividends will be partially tax-free. A few other stocks, such as Southwestern Public Service, are also partially tax-free as to dividends.

THE conversion from manufactured to natural gas over the past decade has proved beneficial to some electric-gas companies such as Consumers Power and Niagara Mohawk, while others like Public Service Electric & Gas and Long Island Lighting have benefited only partially. Public Service still earns only about 3 per cent on its gas plant, Long Island about 4 per cent. The latter company, in its annual report, says frankly that "we want to sell more gas . . . consequently

we have a major sales program to interest people in our territory."

Montana Power is one of the few electric-gas companies (its neighbor Montana-Dakota Utilities is another) which owns substantial gas reserves of its own. The annual report describes the company's continued exploration for gas reserves, the development of storage facilities, and other expansion projects. Gas storage, designed to lessen winter peak demands on pipeline supply, usually makes use of abandoned oil or gas wells, since regular storage holders (reminiscent of manufactured gas days) are too inadequate for peak house-heating demands. San Diego Gas & Electric has a unique method pictured in its report. It has used what looks like a desert area to "plant" 37,500 feet of 30-inch steel pipe, which can hold as much as 10,000,000 cubic feet of gas in reserve.

ATOMIC energy is a very popular topic in these times and there is a bull market in penny uranium shares in Salt Lake City, San Francisco, and New York. Some electric utilities mention the topic in their annual reports, but of course most real information is still "classified." A number of utilities have joined "research teams" or have employed special advisers. Duquesne Light's report referred only briefly to the topic, although it has recently been selected by the AEC to operate the first large atomic reactor which is to be constructed for the sole purpose of producing power.

There is also the affiliated problem of supplying the Atomic Energy Commission with a huge amount of electric power, until such time as atomic energy itself will be converted into electricity. Union Electric of Missouri in its report to stockholders mentions the better progress now being made in constructing the big electric

generating plants of Electric Energy, Inc., while Louisville Gas & Electric describes in detail its relations with OVEC, which is building a large plant near Portsmouth, Ohio.

The state of Illinois has now become more progressive in the matter of rates from the utility viewpoint, partly as the result of a court decision. Commonwealth Edison's report describes the \$20,000,000 electric and gas rate increases (the first in sixty-six years) which it received almost exactly as requested early this year. Moreover, virtually all system rates (the gas business has been transferred to a new subsidiary) now contain clauses covering changes in the cost of fuel with respect to electric rates, and changes in the unit cost of purchased gas in the gas rates. Automatic adjustment clauses of this type are now applied in 46 out of the 48 states, Commonwealth adds.

THERE are signs that the gigantic construction program of the electric utility companies is beginning to taper off a little. Pacific Gas and Electric, which has probably established a record in the size of its program, spent about \$197,000,000 last year but only \$170,000,000 is budgeted for 1954, and the report states that activity over the next several years "will proceed at a lesser pace." West Penn Electric recently reported that after units now under construction are put in service, it plans no additional generating construction.

President Cisler of Detroit Edison Company remarks that the old adage that "everybody talks about the weather, but nobody does anything about it" does not apply to the electrical industry. The two home uses of electricity most discussed and studied in the past year relate to house heating and room coolers.

President McAfee of Union Electric

of Missouri also devotes space in his report to the rapid increase in airconditioning installations, and says that considerable progress was made last year with the heat pump.

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s usual, the report of American Gas & A Electric contains interesting comment by President Sporn on the company's progress in developing greater efficiency. The company last year put into operation three 200,000-kilowatt generating units setting new standards for efficiency and low-cost production, and also progressed with a project for generating power at the unprecedented steam pressure of 4,500 pounds per square inch and a temperature of 1,150° F. Another landmark was the first actual operation of two sections of the company's 300,000-volt system, the highest voltage yet undertaken in the United States, which has been under development for eight years.

Forecast of Industrial Power Needs in 1963

Tomlinson Fort, vice president of Westinghouse Electric Corporation, in a recent talk before the New York Society of Security Analysts, gave a detailed forecast of the future outlook for industrial power consumption. In the accompanying table we have tabulated certain figures presented in his talk, all being rounded to the nearest million, with percentage increases added.

Referring to the chemical industry, Mr. Fort pointed out that its expansion rate is over twice that of industry as a whole. Modern developments in chemistry include flotation processes for reclaiming low-grade ores; synthetic fibers, also shortenings, fats, and oils; nitrogen base and phosphate fertilizers; and plastics of all kinds. The demand for the basic acids

FINANCIAL NEWS AND COMMENT

is also expected to double in the next decade.

Among the nonferrous metal industries aluminum is outstanding, accounting for over two-thirds of the electric energy required by this group. Aluminum needs are growing at the rate of about 5 per cent a year, with large new markets developing in the fields of construction, transportation, and electrical application. Titanium is another dynamic metal, and it requires 20,000 kilowatt-hours to produce only one ton; while only 62,000,000 kilowatt-hours were used in 1953 for titanium, it is estimated that this will increase to 1 billion by 1963—with nearly another billion if finished products are also included.

Referring to the steel industry, two factors account for the 97 per cent fore-cast—increasing use of the electric arc furnace for melting, and high- and low-frequency induction for heating. The pulp and paper industry's use of electricity is expected to increase about twice as fast as the population, reflecting greater per capita use of paper. Oil and natural gas usage should increase due to chemical by-products from refineries.

With the textile industry cyclical fluctuations are important. Production has been decreasing for the past three

years, and by 1963 should be at least 50 per cent above last year's level. Many new mills, particularly rayon spinning and weaving mills, are completely air-conditioned.

In the case of glass, stone, and clay, special factors are the increasing use of glass for structural and decorative purposes, and increased use of electric power for heating and melting of glass. In the coal industry increased mechanization, wider employment of continuous mining machines, and better cleaning of coal account for some of the estimated increase. The rubber industry will reflect the growing rate of auto production, new uses of rubber in machinery, bedding, furniture, paints, and road-surfacing materials, and an increase in the amount of electricity required per ton of rubber.

The metal working industry is in a period of major expansion sparked both by military and civilian needs, Mr. Fort pointed out. New automotive plants provide 9 kilowatts per worker compared with 5 or 6 kilowatts formerly considered normal. Machine tools use twice as much electricity as a decade ago, due to deeper and faster-cutting carbide tools, automation in preparing parts, tracer control development, new machine methods, etc. Induction heating and increased use of the

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Industry	1953 Per Cent of Total Industry Use	Billion K 1953	WH Used 1963 Est.	Per Cent Increase 1963 over 1953
Chemicals Metals (Nonferrous, etc.) Steel Pulp & Paper Oil & Natural Gas Textiles Atomic Energy Commission	15% 14 12 9 7 5	39 36 31 21 17 13	61 56 60 29 25 19	56% 56 94 38 47 46
(Purchased) Glass, Ceramics, etc. Coal Rubber Metal Working & Miscellaneous	5 4 2 2 2 25	13 10 5 5 67	32 14 11 8 92	146 40 120 60 37
Totals	100% 765	257	407	58% JUNE 10, 1954

electric furnace for heat treating and annealing are additional factors.

GENERAL contribution to the growth A of electric sales to all major classes of electrical consumers-industrial, commercial, and residential-is air conditioning and refrigeration, which are expected to increase from 14 billion kilowatt-hours in 1953 to 45 billion by 1963. A factor in this big gain is increasing acceptance of the packaged commercial unit or combination of units for use in offices, stores, hotels, restaurants, etc. Many large new buildings are completely air-conditioned and older buildings are being converted. An outstanding development is the heat pump which is especially adapted to areas where winters are comparatively mild.

The local utilities' air-conditioning load is expected to grow over the next decade at a rate two-thirds greater than dustrial use of electricity is the need of industry to offset rising labor and material costs by increased output per manhour and per unit of plant area. Over the next decade it appears likely that the increase in working population will be offset by a shorter workweek, longer vacations, etc. Mr. Fort estimated that in order to maintain the historical 3½ per cent increase in output and thus sustain a steadily rising standard of living, industry must

the industrial power load as a whole.

A general factor in the increase in in-

crease from 9.5 to 15 kilowatt-hours per man-hour of production, and a rise in total industrial use of electric power from 257 billion kilowatt-hours in 1953 to over 400 billion kilowatt-hours in 1963. The latter amount is some 4 per cent greater

than last year's total sales for all purposes.

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step up the use of electric energy 54 per

cent by 1963. This would mean an in-

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DATA ON ELECTRIC UTILITY STOCKS

195. Rev. (Mill.			5/11/5 Price About	Div. Rate	Cur- rent Yield	Cur. Period	re Earni % In- crease	ngs*— 12 Mos. Ended	Price- Earns. Ratio	Divi- dend Pay- Out	Moody Bond Rating
\$223	S	American Gas & Elec	35	\$1.64#	4.7%	\$2.39**	D2%	Mar.	14.6	69%	_
31	0	Arizona Public Service	19	.90	4.7	1.30	17	Mar.	14.6	69	
8	0	Arkansas Mo. Power	22	1.12	5.1	1.58	D12	Mar.	13.9	71	_
25	S	Atlantic City Elec	33	1.50b	4.5	1.84	14	Mar.	17.9	82	Aa
5	0	Bangor Hydro-Elec	30	1.80	6.0	2.13	23	Mar.	14.1	85	_
4	0	Black Hills P. & L	22	1.28	5.8	2.09	12	Jan.	10.5	61	
82	S	Boston Edison	51	2.80	5.5	2.96	D1	Dec.	17.2	95	Aaa
18	A	California Elec. Power	11	.60	5.5	.88	5	Dec.	12.5	68	A
14	0	Calif. Oregon Pr	29	1.60	5.5	1.89	15	Feb.	15.3	85	A
6	0	Cal-Pacific Utilities	25	1.40	5.6	2.10	3	Mar.	11.9	67	
52	S	Carolina P. & L	45	2.00#	4.4	3.03	4	Mar.	14.9	66	A
21	S	Central Hudson G. & E	14	.70	5.0	.95	18	Mar.	14.7	74	_
15	0	Central III. E. & G	28	1.60	5.7	1.99	D6	Mar.	14.0	80	A
29	S	Central Ill. Light	41	2.20	5.4	2.82	3	Mar.	14.5	78	Aa
40	S	Central Ill. P. S	21	1.20	5.7	1.48	7	Mar.	14.2	81	A
9	0	Cent. Louisiana Elec	22	1.20	5.5	1.58	8	Dec.	13.9	76	Baa
27	0	Central Maine Power	20	1.20	6.0	1.58	12	Mar.	12.7	76	A
96	S	Central & South West	26	1.16	4.5	1.74	15	Mar.	14.9	67	_
9	0	Central Vermont P. S	15	.84	5.6	.88	D3	Mar.	17.0	95	A
89	S	Cincinnati G. & E	22	1.00#	4.5	1.56	10	Dec.	14.1	64	Aaa
5	0	Citizens Utilities	17	.40a	5.4a	1.00	15	Dec.	17.0	40	Ba
91	S	Cleveland Elec. Illum	59	2.60	4.4	4.07	18	Dec.	14.5	64	Aaa
3	0	Colorado Cent. Power	23	1.20	5.2	1.53	10	Mar.	15.0	78	_
32	S	Columbus & S. O. E	28	1.60	5.7	2.10	6	Mar.	13.3	76	A
329	S	Commonwealth Edison	40	1.80	4.5	2.28	8	Mar.	17.5	79	Aaa
10	A	Community Pub. Service	20	1.00#	5.0	1.56	5	Mar.	12.8	64	_
1	0	Concord Electric	36	2.40	6.7	2.48	31	Dec.	14.5	97	-

JUNE 10, 1954

FINANCIAL NEWS AND COMMENT

1953 Rev. (Mill.)	(Continued)	5/11/54 Price About	Div. Rate	Cur- rent Yield	Period	re Earni % In- crease	Ended	Price- Earns. Ratio	Divi- dend Pay- out	Moody Bond Rating
55 O	Connecticut L. & P	17	.88†	5.2	1.14	20	Mar.	14.9	77	Aaa
18 O	Connecticut Power	42	2.25	5.4	2.31	D4	Mar.	18.2	97	Aaa
454 S	Consol. Edison	44	2.40	5.5	2.89	3	Mar.	15.2	83	Aa
98 S	Consol. Gas of Balt	30	1.40	4.7 5.0	1.64 2.95	D6 18	Mar. Mar.	18.3 14.9	85 75	Aaa Aa
158 S	Consumers Power	44 38	2.20 2.00	5.3	2.63	D8	Dec.	14.4	76	Aa
454 S 98 S 158 S 57 S 28 S 192 S	Dayton P. & L Delaware P. & L	28	1.40	5.0	1.90	17	Mar.	14.7	74	Aa
192 S	Detroit Edison	31	1.60	5.2	1.92	6	Mar.	16.1	83	Aa
107 A	Duke Power	44	1.85	4.2	3.18	21	Mar.	13.8	58	Aaa
82 S	Duquesne Light	30	1.60	5.3	2.23	1	Mar.	13.4	72	Aaa
27 O	Eastern Util. Assoc	31	2.00	6.5	2.42	D4	Маг.	12.8	83	
2 0	Edison Sault Elec	10	.50	5.0	.82	41	Dec.	12.2	61	
	El Paso Electric	29	1.60	5.5	2.04	15	Mar.	14.2	78	A
10 S	Empire Dist. Elec	24	1.40	5.8	2.12	7	Dec.	11.3	66 107	Baa
4 0	Fitchburg G. & E	47	3.00	6.4 4.5	2.80 2.02	D7 21	Dec. Mar.	16.8 16.3	74	A
32 S 70 S 156 S	Florida Power Corp	33 47	1.50 1.60	3.4	3.27	13	Mar.	14.4	49	
156 S	Florida P. & L	31	1.70	5.5	2.37	21	Mar.	13.1	72	_
5 O	Green Mt. Power	25	1.30	5.2	1.75	4	Mar.	14.3	74	Ba
43 S	Gulf States Util	29	1.40	4.8	1.90	31	Mar.	15.3	74	Aa
21 A	Hartford E. L.	56	2.75	4.9	3.37	42	Mar.	16.6	82	Aaa
5 O	Haverhill Elec. Houston L. & P.	42	2.50†	6.0	2.99	10	Dec.	14.0	84	_
53 S 7 O	Houston L. & P	35	1.20	3.4	1.93	15	Mar.	18.1	62	Aa
7 O	Housatonic P. S	23	1.40	6.1	1.47	11	Dec.	15.6	95	Aa
22 S 62 S 35 S 17 S	Idaho Power	50	2.20	4.4	3.36 2.74	17 2	Mar.	14.9 15.7	65 80	A
62 S	Illinois Power	43	2.20	5.1 4.8	3.20	6	Mar. Mar.	14.4	69	A
35 S	Indianapolis P. & L	46 12	2.20 .70	5.8	.93	4	Mar.	12.9	75	Baa
17 S 23 O	Interstate Power Iowa Elec. L. & P	21	1.20	5.7	1.62	9	Mar.	13.0	74	_
28 S	Iowa-Ill, G. & E.	31	1.80	5.8	2.20	D8	Mar.	14.1	82	Aa
29 S	Iowa Power & Light	27	1.40	5.2	1.91	5	Mar.	14.1	73	Aa
29 S 25 O	Iowa Pub. Service	26	1.40	5.4	1.90	17	Mar.	13.7	74	A
11 O	Iowa Southern Util	20	1.20	6.0	1.53	7	Mar.	13.1	78	Baa
46 S	Kansas City P. & L	35	1.80	5.1	2.16	7	Mar.	16.2	83	Aaa
22 O	Kansas Gas & Elec	43	2.00	4.7	3.48	18	Mar.	12.4	57 85	A Aa
34 S	Kansas Pr. & Lt.	19	1.12	5.9	1.32	D7	Dec.	14.4 11.4	61	A
31 O	Kentucky Utilities	21	1.12	5.3	1.84 2.83	19 10	Mar. Mar.	12.4	71	A
6 O 5 O	Lake Superior D. P	35 29	2.00 1.40†	5.7 4.8	1.87	18	Dec.	15.5	75	Aa
	Lawrence Electric Long Island Lighting	21	1.00	4.8	1.29**	1	Mar.	16.3	78	A
67 S 39 S	Louisville G. & E	46	1.80	3.9	3.41	12	Mar.	13.5	53	Aa
7 0	Lowell Elec. Lt.	55	3.50+	6.4	3.74	3	Dec.	14.7	94	_
8 O	Lynn G. & E	29	1.60	5.5	2.14	14	Dec.	13.6	75	Aa
7 0	Madison G. & E	37	1.60	4.3	3.13	16	Dec.	11.8	51	Aa
3 A	Maine Public Service	24	1.40	5.8	1.71	13	Mar.	14.0	82	Baa
5 O	Michigan G. & E.	36	1.35#	6.8a	2.83	2	Dec.	12.7	48 70	Baa
127 S 20 S	Middle South Util	28	1.40	5.0	2.00	14 17	Mar. Mar.	14.0 11.7	61	A
20 S	Minnesota P. & L.	23	1.20	5.2 5.8	1.97 2.20	11	Apr.	10.9	65	
2 O 9 A	Miss. Valley P. S Missouri P. S	24 34	1.40 1.80	5.3	2.37	13	Dec.	14.3	76	_
5 0	Missouri Utilities	20	1.00	5.0	1.74	6	Mar.	11.5	57	-
31 S	Montana Power	36	1.60	4.4	2.67	Di	Mar.	13.5	60	Aa
16 A	Mountain States Pr	19	.84	4.4	1.43	19	Mar.	13.3	59	Baa
118 S	New England Elec	15	.90	6.0	1.23**	D1	Mar.	12.2	73	Baa
38 O	New England G. & E	16	1.00	6.3	1.36**	2	Mar.	11.8	74	Baa
41 O	New Orleans P. S	44	2.25	5.1	2.95	3	Mar.	14.9	76	A
2 0	Newport Electric	37	2.00	5.4	2.82	D7	Mar.	13.1	71 71	A
68 S	N. Y. State E. & G	37	1.90	5.1	2.66	20	Mar.	13.9 14.1	78	Aa
204 S	Niagara Mohawk Power	29	1.60	5.5	2.05	12	Mar.	13.0	72	A
63 O	Northern Ind. P. S.	29	1.60	5.5	2.23	5	Mar.	13.4	71	Aa
110 S	Northern States Pr	15	.80	5.3	1.12	D12	Mar. Mar.	12.2	73	A
8 O 109 S	Northwestern P. S	15	.90 2.20	6.0 5.2	1.23 2.90	14	Mar.	14.5	76	Aa
35 S	Ohio Edison	42 29	1.50	5.2	1.83	D3	Mar.	15.8	82	A
14 O	Oklahoma G. & E Otter Tail Power	26	1.50	5.8	2.17	2	Mar.	12.0	69	_
17 0	Oner Tall Tower	20	1.00	0.0	2.10	_				

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1953 Rev. (Mill.)		(Continued)	5/11/54 Price About	Div. Rate	Cur- rent Yield	Cur. Period	re Earni % In- crease	ngs*—— 12 Mos. Ended	Price- Earns. Ratio	Divi- dend Pay- out	Moody Bond Rating
364	S	Pacific G. & E	42	2.20	5.2	3.12**	24	Dec.	13.5	71	Aa
	0	Pacific P. & L	21	1.20	5.7	1.65	D10	Mar.	12.7	73	Baa
	S	Penn Power & Light		2.40	5.9	3.12	27	Mar.	13.1	77	A
	A	Penn. Water & Power	37	2.00	5.4	2.13	D8	Dec.	17.4	94	A
187	S	Philadelphia Elec	38	1.80	4.7	2.43	11	Mar.	15.6	74	Aaa
	0	Portland Gen. Elec	18	1.00	5.6	1.29	4	Feb.	14.0	78	Baa
50	SSSS	Potomac Elec. Power	19	1.00	5.3	1.16	3	Mar.	16.4	86	Aa
56	S	Pub. Serv. of Colo	35	1.60	4.6	2.33	3	Mar.	15.0	69	Aa
230	S	Pub. Serv. E. & G	27	1.60	5.9	1.75	2	Mar.	15.4	91	Aa
59 5	S	Public Serv. of Ind	38	2.00	5.3 5.8	2.34	D12	Mar.	16.2	85 99	Aa
	0	Public Serv. of N. H	31 12	1.80	5.7	1.82 .73	D12	Mar. Mar.	17.0 16.4	93	A
	0	Public Serv. of N. M	28	1.64	5.9	1.88	25	Mar.	14.9	87	Baa
20 (o S	Puget Sound P. & L	42	2.24	5.3	3.31	9	Mar.	12.7	68	A
	0	Rochester G. & E Rockland L. & P	14	.60	4.3	.68	D4	Dec.	20.6	88	A
	S	St. Joseph L. & P.	21	1.20	5.7	1.73	15	Mar.	12.1	69	A
36	Š	San Diego G. & E.	15	.80	5.3	1.21	10	Mar.	12.4	66	Aa
7 (Š	Sierra Pacific Pr	34	2.00	5.9	2.47	D8	Mar.	13.8	81	Baa
140 9	S	So. Calif. Edison	42	2.00	4.8	2.42	D6	Mar.	17.4	83	Aa
29 5	S	So. Carolina E. & G	17	.80	4.7	1.14	50	Mar.	14.9	70	Baa
5 (Õ	Southern Colo. Pr	14	.70	5.0	1.22	25	Feb.	11.5	57	_
180 5	S	Southern Company	16	.80	5.0	1.23	7	Mar.	13.0	65	_
13 9	S	So. Indiana G. & E	26	1.50	5.8	2.27	18	Mar.	11.5	66	Aa
1 (0	Southern Utah Power	15	1.00	6.7	1.18	D25	Feb.	12.7	85	-
	0	Southwestern E. S	18	1.00	5.6	1.51	9	Feb.	11.9	66	_
	0	Southwestern P. S	26	1.32	5.1	1.64	19	Mar.	15.9	80	A
17 A	A	Tampa Electric	58	2.80	4.8	3.58	6	Mar.	16.2	78	Aa
109	S	Texas Utilities	53	2.08	3.9	3.41	12	Mar.	15.5	61	Aa
34 5	S	Toledo Edison	13	.70	5.4	.92	Di	Mar.	14.1	76	A
	O	Tucson G. E. L. & P	19	.92	4.8	1.40	15	Dec.	13.6	66	A -
	S	Union Elec. of Mo	25	1.20	4.8	1.36	11	Dec.	18.4	88	Aa
	0	United Illuminating	48 21	2.40†	5.0 5.7	2.89 1.58	6 34	Dec.	16.6 13.3	83 76	Baa
		Upper Peninsula Pr Utah Power & Light	37	1.20 2.00	5.4	2.39	3	Mar. Mar.	15.5	84	A
30 S 84 S 22 S	2	Virginia E. & P	31	1.40	4.5	1.88	16	Mar.	16.5	74	Aa
22 5	3	Washington Water Pr	30	1.60	5.3	1.82	10	Mar.	16.5	88	A
115 5	Š	West Penn Elec	40	2.20	5.5	3.47	7	Mar.	11.5	63	
	č	West Penn Power	45	2.10†	4.7	2.65	8	Mar.	17.0	79	Aa
	Ö	Western Lt. & Tel	27	1.60	5.9	2.40	12	Mar.	11.3	67	A
	0	Western Mass. Cos	35	2.00	5.7	2.67	5	Mar.	13.1	75	Green Co.
84 S		Wisconsin Elec. Pr	29	1.50	5.2	2.01	4	Dec.	14.4	75	Aa
32 C		Wisconsin P. & L	23	1.20	5.2	1.75	19	Mar.	13.1	69	A
30 S	5	Wisconsin Pub. Ser	20	1.10	5.5	1.39	10	Mar.	14.4	79	A
					-					-	
		Averages			5.3%				14.3	75%	
		Foreign Companiest									
\$187 \$	-	American & Foreign Pr	10	\$.60	6.0%	\$2.36	22%	Sept.	4.2	25%	_
170 A		Brazilian Trac. L. & P	9	1.00	11.1	2.98	20	(c)	3.0	23 /0	_
56 A		British Columbia Pr	22	1.00	4.5	1.47	15	Dec.	15.0	68	_
15 A		Gatineau Power	24	1.20	5.0	1.77	10	Dec.	13.6	68	Baa
26 C		Mexican L. & P	7					_	-	-	
9 A		Ouebec Power	24	1.20	5.0	1.57	23	Dec.	15.3	76	Baa
42 A		Shawinigan Water & Pr	45	1.45	3.2	2.26	17	Dec.	19.9	64	Baa

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JUNE 10, 1954

B—Boston Exchange. A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. D—Decrease. NC—No comparable figures available. *If additional common shares have been recently offered, earnings are adjusted to give effect to the offering. Percentage change is in the net income available for common stock. Tax savings resulting from accelerated amortization of defense facilities are excluded (when separately reported). **Based on average number of shares. a—Also regular annual 3 per cent stock dividend, which is included in the yield. b—Also 5 per cent stock dividend. c—Calendar year 1952. #—Also occasional stock dividends. †Estimated (rate irregular or includes extras). †With exception of American & Foreign Power, these stocks are also listed in Canada, and the Canadian prices are here used. (Curb prices are affected by exchange rates, etc.)



What Others Think

Hydroelectric Power Development under Federal Law

THERE is ample opportunity within the framework of the Federal Power Act for the kind of partnership development of our water resources advocated by President Eisenhower. This was the gist of an address by Jerome K. Kuykendall, chairman of the Federal Power Commission, to the American Power Conference, held in Chicago, Illinois, in late March. Tracing the historical development of hydroelectric power under the act, Kuykendall said it clearly and specifically provides for participation by independent action of nonfederal interests and by joint federal-nonfederal partnership.

"Present policy affirms that the federal government should undertake construction of only those water resource development projects, or parts of projects, which cannot be built by local interests or which have a national significance, and that other projects, or parts of projects, are to be left to nonfederal public or private interests," the FPC chairman stated. "The means for nonfederal development of such projects, either in their entirety or in partnership with the government, have been at hand and successfully in operation for a third of a century, under the Federal Power Act."

Early legislation relating to the development of hydroelectric power on navigable streams, or in the public domain, was not conducive to development by in-

vestment of capital—public or private. One of the principal objections to congressional enactments on the subject prior to 1920, Kuykendall explained, was that they provided no definite term or tenure. Moreover, a grant might be altered or repealed at any time without recourse by the grantee or liability of the United States, and no provisions were made for disposition of property on termination of grants.

INDER these precarious conditions, development of our water-power resources was impeded and, although numerous special authorizing acts for power projects were enacted, little progress was made in the way of actual development. Kuvkendall said it has been estimated that, prior to the passage of the Federal Water Power Act of 1920, the total capacity of water power developed on public lands and navigable streams was only about 1,400,000 horsepower. Passage of the Federal Water Power Act, or a similar act, would quite probably have occurred somewhat earlier, but for conflicting opinions regarding some of its provisions. Chief among these, according to Kuykendall, was the question whether or not a charge should be made for privileges granted by the license in addition to charges for the cost of administering the act. Other controversial items included the definition of navigable streams and the

provisions of the so-called "recapture clause." Eventually, however, differences were reconciled and the act was passed substantially as it appears today in Part I of the Federal Power Act of 1935.

The Federal Power Act of 1935 was enacted to encourage the development, conservation, and full utilization of the water resources of the country; and it was designed to safeguard the hydroelectric power potential in these resources and to insure its proper development. The FPC chairman noted § 10(a) of the act which requires that adopted projects shall be such as to be "best adapted to a comprehensive plan for improving or developing a waterway . . . for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, and for other beneficial public uses, including recreational purposes. . . . "

He also called attention to § 4(e) of the act which stipulates that the FPC is authorized to issue licenses to citizens of the United States, to any association of such citizens, to any corporation organized under the laws of the United States or any state thereof, to any state or to any municipality for the purpose of developing water power on any of the streams over which Congress has jurisdiction, upon public lands and reservations of the United States, and at government dams. "Thus the act provides for participation in water-power development by all interests," Kuykendall emphasized, "both public and private."

KUYKENDALL cited a number of instances in which nonfederal interests have participated with the federal government on a partnership basis by undertaking the construction and operation of the power features of multipurpose projects. Examples include, among others, the London, Marmet, and Winfield projects at

navigation dams on the Kanawha river, and the Ohio Falls project at the navigation dam at Louisville on the Ohio river, where power features were constructed by privately owned utilities under licenses issued by the FPC. Examples can also be cited where the federal government has participated in the development of projects, originally proposed to be constructed by nonfederal interests, by assuming responsibility for providing or contributing to the nonpower features. For instance, the government has provided a part of the reservoir lands for the Grand River Dam Authority Pensacola project in Oklahoma in the interest of flood control.

The 1944 Flood Control Act authorized a plan recommended by the Chief of Engineers for the control of flood flows in the Tuolume river in California. This plan called for the federal government to contribute an estimated \$12,000,000—justified by flood-control benefits—toward the construction of the Cherry Valley reservoir of the city and county of San Francisco and toward the enlargement of the Don Pedro reservoir, owned and operated by the Modesto and Turlock Irrigation districts.

RURTHERMORE, Kuykendall continued, during the last session of Congress, legislation was passed in the Senate for a \$6,500,000 contribution for flood control at the Markham Ferry project, which would be constructed by the Grand River Dam Authority in Oklahoma. The partnership arrangements pertaining to the Don Pedro enlargement and the Markham Ferry project would be carried out in connection with construction licensed by the FPC. Kuykendall also noted that Public Utility District No. 2, of Grant county, Washington, has applied to the FPC for a preliminary permit with a view toward the development of hydroelectric power in the

WHAT OTHERS THINK

Priest Rapids section of the Columbia river.

One plan of development would also include flood control. Shot, ld this plan be adopted, said Kuykendall, the federal government would probably participate to the extent necessary to provide flood-control and other features. Similar applications have been filed for the Rocky Beach and Wells projects on the Columbia river.

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"Clearly," Kuykendall told the conference, "actual events demonstrate that the Federal Power Act is a vehicle which provides for full participation in the development of our water resources when there is a will for such participation."

Development by nonfederal agencies of hydro power on lands of the United States and streams under the jurisdiction of Congress was slow and halting before the enactment of the Federal Water Power Act of 1920. By way of contrast, Kuykendall said that during the first three years of the FPC's administration, the commission dealt with applications involving six times as much horsepower, issued permits and licenses involving three times as much horsepower, and had twice as much horsepower built or building as the individual governmental departments had dealt with in the preceding years.

As pointed out in the third annual report of the FPC, "when it is realized that only 1,400,000 horsepower had been constructed under federal authorization in the years preceding the passage of the act and that at the time of its passage the average installation in all water-power plants in the United States amounted to only 9,000,000 horsepower, the satisfactory character of the legislation and the substantial results accomplished in its administration are apparent."

PROJECTS on other than navigable waters affecting the interests of interstate or

foreign commerce require federal authorization under § 23(b) of the Federal Power Act, Kuykendall reminded the conference. Since 1920, he said, the commission has received 203 declarations of intention to construct project works on streams other than those defined in the act as navigable waters but over which Congress has jurisdiction. After proper examination had been made of these proposed project works to determine whether or not the interests of interstate or foreign commerce would be affected thereby, the commission has found that licenses were required for only 70 of them, or about 35 per cent of the projects for which declarations were filed.

FROM the establishment of the commission in 1920 through the calendar year 1953, applications for preliminary permits or licenses have been filed in connection with 2,148 projects, Kuykendall said. At the end of 1953, there were 664 licenses in effect, covering projects with about 6,-784,000 kilowatts of existing capacity and with provisions for ultimate installations totaling about 10,000,000 kilowatts. Of these licenses, 219 were for major power projects of more than 100 horsepower capacity, the FPC chairman stated. Projects now under license account for about 53 per cent of the total hydroelectric capacity in the United States which is not owned by the federal government. At the end of the calendar year 1953, he continued, new capacity of hydro plants under construction under FPC authorization totaled about 994,000 kilowatts, of which about 402,000 kilowatts were public developments and 592,000 kilowatts were private developments. Pending before the commission at the end of 1953 were applications for preliminary permits, licenses, and amendments totaling about 10,838,-000 kilowatts of new hydroelectric capac-

ity, including both public and private developments.

INDICATIVE of the recent upsurge in activity relative to nonfederal hydroelectric development are the figures for the fiscal year ending June 30, 1953, and for the latter half of the calendar year 1953. Kuykendall said that during the former 12-month period applications were received for installations aggregating 4,221,000 kilowatts of net generating capacity.

During the latter 6-month period, applications received involved a net total of 4,450,000 kilowatts. "Accordingly," he concluded, "on the basis of the record it seems reasonable to assert that the Federal Power Act has provided a climate favorable to development of our hydroelectric power resources and that, under the act, opportunity is provided for participation in this development by all interested parties, federal and nonfederal, public and private."

The Next Twenty Years in Atomic Energy Development

HE immediate objective of the Atomic Energy Commission in the development of atomic energy for peacetime uses is to bring the cost of generating power from nuclear fuel down to eight mills or less per kilowatt-hour. In a recent address to the third annual conference of business economists at the University of Chicago, AEC Commissioner Henry D. Smyth said the commission is operating on the over-all assumption that technical progress within the next twenty years will bring nuclear power costs down to somewhere around four to eight mills per kilowatt-hour. The AEC regards this as a desirable objective, Smyth said, in view of the 1952 report of the President's Materials Policy Commission, which estimated that energy requirements in the United States for all purposes would double in the next twenty-five years while the consumption of electric energy would triple in that period. Conventional fuels, which are the present sources of energy, are considered adequate to meet these expanding needs up to 1975, with little or no increase in real costs.

Assuming that power costs from conventional plants will not go up appreciably during the next twenty years, Smyth pointed out that nuclear power plants will

have to compete, not with the average present cost of power, but with the cost of power produced from conventional fuels in new, efficient plants as they are built to add to our total capacity. The cost of power from such modern plants is estimated to cover a wide range, but 90 per cent of the 1,400 billion kilowatt-hours expected to be generated in 1975 should cost somewhere between three and eight mills per kilowatt-hour, Smyth said. This range of costs for power from efficient coal- or gas-burning plants is exactly in the range AEC has set as its objective.

WHAT will be the impact on the nation's economy between now and 1975, assuming that the AEC's domestic technical program is successful? Smyth gave two illustrations, both assuming that a development program, including construction of several large nuclear power plants by the mid-1960's, will lead to the building of a growing number of nuclear plants generating power at competitive costs. Case one assumes nuclear power costs at seven mills per kilowatt-hour in 1963, falling to four mills by 1975. It further assumes that as power plants are built in different parts of the country, giving power at different costs, one-half will be

nuclear if the costs are the same. Under these assumptions, by 1975 the nuclear power component of the electric generating industry would have installed capacity of 21,000,000 kilowatts. On an 80 per cent plant factor, such a capacity might generate 147 billion kilowatt-hours out of 1,166 billion to be generated from all steam plants in 1975. The share of nuclear power in the total projected electric generation of 1,400 billion kilowatt-hours in that year would thus be about 10 per cent.

The second example given by Smyth, less optimistic, assumes seven mills per kilowatt-hour, falling to five mills in 1975. It further assumes that nuclear power plants will be built only if they have an advantage of one mill per kilowatt-hour over conventional plants. In this case, the nuclear power share would, of course, be smaller. About 5,000,000 kilowatts of nuclear capacity would be in operation in 1975, generating about 35 billion kilowatt-hours. The share of nuclear power in the total U. S. electrical output would be about 2 per cent. Smyth explained:

Today no one can predict whether the nuclear power industry will in 1975 be producing 10 per cent, 2 per cent, or some other share of the U. S. electrical output. Nevertheless, these illustrative estimates indicate the scale that might be achieved if development is pressed and proves successful. Either case represents a sizable nuclear capacity: in one case 140 reactors, in the other case 33 reactors, of 150,000 kilowatts average capacity would be in operation.

The growth of nuclear power suggested by Smyth would occur in a period of general industrial expansion, accompanied by a very rapidly rising demand for

electric power. Should this prediction be wrong, nuclear power would probably be less important in this country. Smyth also emphasized that his estimates assume no appreciable rise in the costs of competitive fuels before 1975. Should power from conventional fuels start to rise materially in cost, he pointed out, nuclear power plants may well come in faster. "In fact," he added, "perhaps the most important rôle for nuclear power may be as a restraining force exerted against rising power costs. If nuclear power in 1975 could hold down the average cost of electricity by one-quarter of a mill per kilowatt-hour, the saving to the country would be \$350,000,000 annually."

Summing up, if Smyth's predictions are approximately correct, nuclear power will play an important but not overwhelming rôle in our national power picture by 1975. The next twenty years will be a period of development and transition. "Presumably," Smyth continued, "most of the power plants in the nation's electric supply network will continue to be privately owned. The bulk of the additions to our power plant capacity, whether conventional or nuclear, should be built and operated by the privately owned power companies and financed by them. . . . One of the first things that needs to be done is to change the Atomic Energy Act" to permit the transition from federal monopoly to normal competitive private enterprise, Smyth stated. Although the principal burden of nuclear power development, both technically and financially, will have to be carried by the government for some years to come, Smyth said he has good reason to hope that by 1960 or 1965 technical advances will be sufficient to justify private capital in picking up most of the financial and technical burden of development and construction.



The March of Events

FPC Authorizes Merger

THE Federal Power Commission last month authorized the merger of Mountain States Power Company of Albany, Oregon, into Pacific Power & Light Company, of Portland, Oregon.

Pacific, as the surviving corporation, plans to use the facilities of the two companies for the same purposes for which they are presently being used. In their joint application, the companies said that the merged enterprise would be both larger and financially stronger than either constituent company operating independently, and should be better able to render service to the public. The companies also expect to realize savings in power and operating costs as a result of the merger.

The merger already had been approved by the public utilities commissioner of Oregon, the Wyoming Public Service Commission, and the Idaho Public Utilities Commission. The public service commission of Washington has authorized Pacific Power to issue the additional securities necessary to effect the merger.

Mountain States' service area includes western Oregon, the Sandpoint area in northern Idaho, Kalispell, and adjacent areas in northwestern Montana, and northwestern and central Wyoming. Pacific serves areas in northern Oregon and southern Washington.

Appropriations Voted

THE Senate Appropriations Committee recently voted \$1,235,780,300 to run the nation's atomic energy program, including the testing of a wide variety of atomic and hydrogen bombs.

The funds for the fiscal year starting July 1st are \$106,219,700 less than the administration requested but \$42,810,000 more than approved by the House.

The atomic energy money was included in a catch-all appropriations bill carrying \$5,700,950, 413 to run twenty independent government agencies next year. It is only the second appropriation measure to clear the Senate committee during this session of Congress.

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Second largest of proposed appropriation bills, it also would provide \$129,-582,000 for the Tennessee Valley Authority. This amount was said to be about \$59,000,000 short of TVA appropriations for the current fiscal year. Senator Saltonstall (Republican, Massachusetts), chairman of the subcommittee which considered the appropriations bill, opposed an amendment by Senator Kefauver (Democrat, Tennessee) to provide funds for the Fulton steam plant, near Memphis.

President Eisenhower was expected to name a TVA chairman to succeed Gordon R. Clapp, whose term expired last month. He said he was still looking.

Arkansas

Increased Rates Sought

An application for a rate increase averaging about 14.7 per cent for residential customers was filed with the state public service commission recently by the Arkansas Louisiana Gas Company.

The proposed increase, the first general increase asked by the company in thirty-one years, would average about two cents a day to the residential customer, a com-

pany spokesman said. Rates in Arkansas have not changed since 1923, he said, except for a general reduction of 19 per cent in 1940 and later increases in east Arkansas towns.

The boost will affect cities and communities served by Arkansas Louisiana in central and southwestern Arkansas, including Little Rock, Pine Bluff, Hot Springs, El Dorado, Camden, Texarkana, and Magnolia.

Minnesota

Street Use Charge Held Valid

A FORMAL memorandum submitted last month to the Minneapolis city council's committee on ordinances and legislation by the city legal department held that an ordinance proposing to charge Northern States Power Company for use of city streets for its power lines would be valid and enforceable.

Such a pending ordinance, introduced February 11th under sponsorship of liberal aldermen, proposed a charge of \$500 a route mile of company facilities, whether overhead or underground. On that basis, it was estimated the company's total bill would approximate \$500,000 a year.

The memorandum challenged a company contention that the firm still has a valid franchise and therefore cannot be subjected to the proposed charge. The city legal department said that what franchise or franchises predecessors of Northern States may have had have either expired or been repealed.

Minneapolis now charges the Minneapolis Gas Company one-sixth per cent of its gross sales for use of the streets. For 1954 it has been estimated this formula will bring the city of Minneapolis about \$400,000.

Broader Control of Utilities Proposed

A PREVIOUSLY expressed desire to expand its powers to include regulation of power and light, gas, pipelines, and airline traffic was reiterated by the state railroad and warehouse commission recently in a letter to the state legislative research committee's director of research.

Signed by Commission Secretary Oliver A. Ossanna, with the full approval of the 3-man commission, the letter said the commission has "received numerous inquiries relating to public utilities over which neither this commission nor any other department has jurisdiction." Ossanna said he had some 500 letters in his file complaining of nonregulated public utilities.

Desire of the commission to broaden its field of supervision was first indicated last winter in an annual report, also written by Ossanna, with commission approval. Gas and pipelines, air-line traffic, and power and light were depicted in the report as suitable fields for commission regulation.

Existing powers include truck and bus routes and rates, certain railroad rates, and telephone service and charges.

Nebraska

State Needs Power Lines

ONE of the greatest needs of electric power in Nebraska is transmission lines to bring Bureau of Reclamation power to load centers in the state, John M. Clema, executive manager of the Nebraska Rural Electric Association, told Nebraska College of Agriculture groups last month.

Needed by next year will be a line from

Gavins Point dam near Yankton, South Dakota, to Belden, he said. A line from the Fort Randall dam in South Dakota to Grand Island will be a necessity in the next few years, he added.

Clema stressed that Nebraskans must "push and push hard" for such lines. He indicated that efforts of the Nebraska congressional delegation are aimed at getting these lines built by the Bureau of Reclamation.

Ohio

Rate Procedure Study Started

A STUDY of the state's rate-making formula for gas, electric, and telephone service was started last month by the State Legislative Service Commission's public utilities committee.

William Saxbe, who heads the committee, pointed out that the state's rate-making procedures have been criticized as outmoded in every legislative session in which he had participated. The legislative interim study was requested by the 1953 legislature.

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The study committee agreed to invite members of the state public utilities commission to appear before it.

Washington

Power Agency Action Stands

THE state power commission was reported recently to have ignored an opportunity to reverse itself and decide what to do about an application for formation of the state's first power "operating agency."

Commissioner Tom Quast, Marysville, urged immediate action on the application of 14 public utility districts and seven small cities for authority to organize operating agency No. 1. At a previous meeting, the commission decided to shelve the petition pending further study.

Quast said the commission's failure to act on the matter had caused many of the PUD's to "get together anyhow" under a 1949 law allowing them to join in making contracts, thus shutting the door on small cities that could only participate through an operating agency. The law which brought the power commission into being, and provided authority for such operating agencies was passed by the legislature in 1953.

Quast did not press the matter of acting on the application, however, when he found the other four commissioners unsympathetic to his plea.

The commission discussed, but came to no decision, on the question of whether it should attempt to build the proposed \$350,000,000 Priest Rapids dam on the Columbia river. A bill pending in Congress would permit the commission, an operating agency, or an individual PUD to construct the big dam.



Progress of Regulation

Litigation Expense Excluded from Original Cost of Licensed Power Project

THE Federal Power Commission did not permit the Appalachian Electric Power Company to include the expense of the extensive New river litigation as part of the "actual legitimate original cost" of its Claytor Power project. The litigation, reported in PUR1933C 433 and 31 PUR NS 65, concerned the company's unsuccessful efforts to avoid taking a standard form license for the project, with the usual rate and recapture provisions based on the original cost of the project. The court proceedings ended when the Supreme Court, on December 16, 1940, held that the New river was a navigable water and that a license was required for any power project constructed thereon.

The expenses incurred in the vain attempt to avoid the license requirement amounted to about one-half million dollars. If this were allowed as part of the cost, the company could make higher rates effective and obtain a higher payment from the government in the event that the government desired to recapture the project at the end of the license period.

Expenditures Excluded from Cost

The commission, in affirming the examiner's ruling that the expenditure contributed nothing to the project, stated:

We recognize that costs of complying with statutes and regulations which have to be complied with in order to bring an operable project into being are part of the cost of that project. Accordingly, we allow such costs, including costs of obtaining a license from this commission, when they are "actual," "legitimate," and "original." But costs of attempts to avoid such compliance, and particularly unsuccessful attempts, are a different matter.

The commission cited many examples of costs in other projects which were not allowed. Some of these were: (1) Materials purchased for a project but never used, through an engineering error; (2) costs of studies as to whether an option on stock in a company owning land needed for a project should be exercised where the option was never exercised and the land acquired in another manner; (3) costs of unsuccessfully resisting a proceeding to eject a power company from land on which a project was being constructed where the land was later acquired by purchase, with the purchase price being included as part of the original cost of the project.

The commission pointed out that it did not question the company's right to contest the license requirement or whether the

expenditures were reasonable or prudent but held that these matters were irrelevant to the question as to whether the expenditures were costs of the licensed project.

No Hindsight Judgment

Two months after this finding the company sought a rehearing on the ground that the effect of the commission order is to judge the expenditures by hindsight and leave a licensee in the position of acting at its peril with respect to expenditures incurred. The commission said that this argument was based on a misconception of the commission's order. The order did not mean that all expenditures involving an element of risk which turn out to be unsuccessful should be excluded. The key to the question is not whether the costs contributed to the project but whether the

costs contributed to the licensed project.

The commission summarized the reason for its refusing to allow a rehearing in these words:

Hence what is here involved is not a "hindsight" reappraisal, in the light of the knowledge of the outcome of the litigation, of the company's decision to make the expenditure, but simply a recognition that the project whose cost we have to determine is a licensed project. The fact that it would not have been a licensed project if the litigation had succeeded cannot be made by the use of the term "hindsight" to alter what we must determine.

Re Appalachian Electric Power Co. Project No. 739, February 10, 1954; April 7, 1954.

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Corporation Generating and Selling Electricity Not Public Utility

THE owner of a small hydroelectric plant complained to the Colorado commission that a newly organized corporation was engaged in the business of a public utility and should be required to obtain a certificate of convenience and necessity before transacting further business. The commission was called upon to determine whether the corporation was, in fact, an electric utility.

The corporate charter permitted the corporation to generate, transport, distribute, and sell electrical power and energy. The fact that the certificate of incorporation gave utility powers, commented the commission, does not *ipso facto* make the corporation a public utility. The determination of utility status depends upon the actual services performed, not what the charter says the company may do.

The corporation had instituted condemnation proceedings for the purpose of acquiring a site for the generating plant it intended to build. The statutory authority to institute such proceedings, the commission pointed out, is given to several types of corporations and not specifically limited to public utilities. The act of condemnation did not constitute proof that the corporation was a public utility.

Nor could it be said that the corporation was supplying electrical energy to the public. A contract was in effect between the corporation and an electric utility. This agreement provided for the sale of the plant's entire output to the electric utility. Since the contract called only for one sale to one customer, and not for a sale to the inhabitants of the particular community at large, the corporation had no control and no concern as to the dis-

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tribution of the electricity sold, nor the charges made.

The commission concluded that the corporation was not a public utility and,

therefore, not subject to the jurisdiction of the commission. Baker v. Lake City Light & P. Co. Decision No. 42426, Case No. 5064, April 7, 1954.

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Zoning Statute May Not Deprive Commission of Authority over Power Plant's Location

The supreme court of errors of Connecticut recently answered questions forwarded to it by a lower court pertaining to a zoning statute regulating the location of a power plant within a municipality. The court ruled that the statute could not be construed as conferring on municipal zoning authorities exclusive power to regulate or prevent the location of a utility structure within municipal limits. If the statute were so construed, then the utilities commission would be powerless to compel a utility to render adequate service.

The court also pointed out that when the commission was established, broad powers of regulation were given it in the interest of statewide public welfare. If local authorities could prevent utilities from locating structures within a community, a complete negation of these broad powers would result.

The proper procedure, the court concluded, is for the power company to apply for a permit to build its plant at a given site. The board passes on the application not only as a local zoning agency but as a special state body. The company would have the right to appeal from an adverse decision to the utilities commission. Jennings et al. v. Connecticut Light & P. Co. et al. 103 A2d 535.

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Predominant Weight Accorded Reproduction Cost during Inflation and Managerial Discretion Recognized

The superior court of Delaware held that the commission erred in failing to give sufficient weight to reproduction cost for the purpose of fixing telephone rates. The commission had merely added a rate of 12 per cent of original cost to allow for inflation. The court said that in order to arrive at a present fair value under present inflationary conditions, reproduction cost or its equivalent should be given substantial weight. It found 90 per cent of reproduction cost new to be fair value.

Fair Value

A Delaware statute requires the com-

mission to allow a fair return on the fair value of utility property. Fair value within the meaning of that statute was held to be present fair value. This means, according to the court, that when the value of the property has risen, the utility is entitled to a return on that increased value, and vice versa.

The court pointed out that, although in a normal case the fixing of a fair return upon the fair value of property would be tantamount to fixing reasonable rates, there might come a time when, because of an extraordinary rise in prices, a fair return on the then fair value might produce a rate which would be unreasonable

for the public. In such a case, it said, the commission might be justified in scaling down the rates. Such action was not considered justifiable in this case.

Subscriber Objections

A number of letters from subscribers objecting to any rate increase and urging the commission to "hold the line" against inflation were placed in the commission record. The court considered such evidence irrelevant. It said that the commission's functions in no sense include those of a price control board. Its power, in so far as concerns an application for a rate increase, ceases when it has approved rates which should produce a fair return on present fair value.

Working Capital

The commission had excluded a working capital allowance from the rate base. The court held this was improper. It found that although the commission could scrutinize the amount claimed as working capital, it was not justified in interfering with the sound judgment of the board of directors of the company in providing a sum for cash working capital.

Fictitious Debt Ratio

The commission's "fictitious" increase of the company's outstanding debt for rate-making purposes was held to be error.

Concluding that such action invaded the reasonable range of managerial discretion, the superior court judge commented:

I had always assumed until now that a corporation with very little debt presented an attractive inducement to investors. If direct commission interference in a corporation's financial affairs were to be permitted at all, I would have thought it would have been exercised for the purpose of rendering it debt free rather than debt ridden. I know of nothing more exclusively within the sound discretion of corporate directors than the exercise of judgment concerning its financial affairs. . . . If this commission's decision were upheld in this respect, the corporation might feel compelled against its judgment to increase its debt limit in order to gain actual, rather than fictitious, advantage of the tax reductions so thrust upon it. Obviously, this places the commission in a position indirectly to influence important decisions of the directors.

Charitable Contributions

Commission exclusion of charitable contributions from operating expenses was also held to be improper. The contributions were all for recognized local charities, such as the Red Cross and United Fund. They amounted to less than one-tenth of one per cent of total operating expenses. The contributions were for purposes of good will in the locality and, in the court's opinion, the action was well within the discretion of the board of directors. Re Diamond State Teleph. Co. 103 A2d 304.

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Electric Company's Bond Issue to Take Advantage of Bond Market's Gain Approved

THE New York commission authorized the Consolidated Edison Company to issue \$50,000,000 worth of 30-

year first and refunding mortgage bonds. The bonds were to be offered at competitive bidding, by which the price to the

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company, interest rate, and redemption prices would be fixed.

The commission noted that the company desired to take advantage of a recent improvement in the bond market and thereby reduce the annual cost of servicing mortgage debt and at the same time reduce the balance outstanding. The proposed refunding would slightly improve the company's capital structure.

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After directing the company as to the application of the proceeds toward the re-

demption of various outstanding obligations, the order provided that the authority could be abrogated "by an order signed by one or more commissioners, within twenty-four hours after submission of the competitive bidding proposals, if the price to the company, interest rate, and redemption prices-all as accepted by petitioner's board of trustees-appear unsatisfactory and not in the public interest." Re Consolidated Edison Co. of New York, Inc. Case 16701, April 12, 1954.

Depreciation Reserves Adjusted by Changing Annual Rates

THE Long Island Lighting Company, an electric company which has recently consolidated with its operating subsidiaries, successfully applied to the New York commission for approval of its proposal to make future adjustments in its depreciation reserves, either because they are excessive or inadequate, by modifying the annual depreciation rates. The company said that it was reluctant to transfer the balance of unearned surplus to capital while there was a possibility that in future depreciation restudies the depreciation reserves might have to be increased. In authorizing these adjustments by modifying the annual depreciation rates, the commission said:

It is certainly not the intention of the commission to continuously adjust depreciation reserves by transfers to or from surplus, either earned or unearned, but it is rather its policy that differences, either plus or minus, between the reserves and the accrued depreciation based on theoretical reserve requirement studies made from time to time, should be compensated for by modifying future depreciation accruals in a manner consistent with sound judgment and full realization of the

fact that reserve requirement studies are necessarily based on opinion, since they involve predictions of the future.

Accounting Adjustments

The commission also modified an earlier order to permit the company to transfer the balance in its unearned surplus account, arising from the excess in the depreciation reserves as of the date of consolidation, to Account 203 — Premiums and Assessments on Capital Stock instead of to Common Capital Stock Account. It found no reasons, either statutory or as a matter of policy, against the transfer of this amount to Account 203, except the fact that legally the company could pay the amount as dividends on its common stock. But, it observed, the same would be true if the amount were retained in Unearned Surplus.

It is impossible to transfer the amount to the Capital Stock Account except by the issuance of a stock dividend or by a change in the par value of the capital stock, which would require a change in the certificate of incorporation. The commission does not have authority to order either of these. Re Long Island Lighting Co.

et al. Case 12215, April 13, 1954.

School Bus Service Included in Transit Operations

A TRANSIT company rested an application for increased fares on the proposition that it was entitled to segregate charter and school bus business from regular route operations. If the fares were then inadequate to support the regular route operations, an increase was justified, argued the company. The Massachusetts department did not agree, and commented on the company's contentions:

The only possible basis upon which such a claim could be sustained is that the charter and school bus business is a nonutility business and consequently must be isolated from the utility operations of the carrier under the familiar rule laid down in MacRae v. Selectmen of Concord (1937) 296 Mass 394, 398; Re Opinion of the Justices (1938) 300 Mass 591, 593, 23 PUR NS 349; Lowell Gas Co. v. Department of Public Utilities (1949) 324 Mass 80, 99, 78 PUR NS 506; and Boston Consol. Gas Co. v. Department of Public Utilities (1951) 327 Mass 103, 109, 110, 90 PUR NS 259.

The practical application of this rule involves many very difficult problems even in the classic case where a gas or electric company is engaged in the merchandising and jobbing business. In such case, the allocation of joint expenses and the segregation of capital present extremely nice questions of accounting. See Boston Consol. Gas Co. v. Department of Public Utilities, 327 Mass 103, supra. When recourse is taken to this principle, two other major considerations must be kept in mind. In the first place, the burden is on the utility in any rate case to present sufficient credible evidence to support any of its contentions. The department is under no obligation to seek such information itself,

nor is it obligated to accept the utility's evidence if it conflicts with accepted and reasonable accounting practices. In the second place, a most important corollary to the principle of the foregoing cases is that all revenues, expenses, and costs must also be accurately segregated. . . .

Noting that other bus companies considered school bus business part of the total business in a rate proceeding, the department was of the opinion that if segregation were to be allowed, strict compliance with the above-quoted principles would be necessary. The company had not presented sufficient evidence to enable the department to make a finding as to just how much capital was employed for school bus activities.

The company had broken down its results, but the department found fault with the method employed and the sparse explanation of such method. The company, for instance, had applied a fixed percentage (representing the ratio of school bus mileage to total mileage) to all expense figures. But there are some expenses, such as insurance, which are not a function of mileage at all, the department noted. Insurance is normally a function of revenue.

Statutory Exception

The company argued that the school bus business fell within a statute excepting certain school busses from the definition of charter and special service. The department again commented that the company had not presented sufficient evidence to enable it to tell whether the school services fell within the statutory exception.

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The carriage of school children for hire, concluded the department, is fundamentally the same sort of activity as is the carriage of the general public for hire, unlike the merchandising activities of an

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electric or gas utility. The same bus might be a school bus one day and be used for regular route operation the next. If the department were to support the company's contentions, the refinements in accounting technique that would be necessitated would be exquisitely fine.

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The company was denied authority to increase regular route rates. The over-all operations, including charter and school bus service, it was found, produced a safe operating ratio and an adequate return under existing rates. Re Hudson Bus Lines, Inc. DPU 10552, April 2, 1954.

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Commission Modifies Space-heating Restrictions

THE New York commission, in passing upon a gas company's application for authority to supply additional customers with manufactured gas for space heating, commented on its general policy with respect to such applications.

In lifting restrictions and making available supplies of gas for space heating, the commission pointed out, it was neither encouraging nor discouraging the use by the public of any particular type of fuel. Each type has advantages and disadvantages. But all types have one attribute in common—there is no guaranty of price stability. The prices paid to producers for imported natural gas are not under the control of the commission and such prices

largely influence the prices paid by consumers.

The commission noted the responsibility it had of seeing that the public obtained safe and adequate service at reasonable cost. Also imposed upon the commission was the parallel duty of affording the utilities a fair return on invested capital, which it thought was the sole assurance of adequacy and safety of service.

The company had a large reserve production capacity in its various plants and many applications on file requesting heating service. In view of these factors, the commission concluded that the company's request should be granted. Re Long Island Lighting Co. Case 14156, April 13, 1954.

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Other Important Rulings

Boundary Dispute. In determining a boundary dispute arising from territorial claims of two telephone companies, each operating under a grandfather's certificate, the Colorado commission would not consider the company's future proposals, but would only take into account the service actually rendered by the companies in the disputed territory. Re Reyher, Decision No. 42067, Amended Application No. 12007-Transfer, February 9, 1954.

Comparative Rates. The Georgia commission authorized a telephone company

permitted by the New Jersey board to to increase its rates only to the level in effect in other exchanges of comparable size and type, notwithstanding that such increase was substantially lower than requested, where the company had not maintained records which would have permitted a determination of the actual cost of operation and had submitted only estimates of operating expenses and revenues. Re Kirk (Broxton Teleph. Co.) File No. 19379, Docket No. 603-U, April 5, 1954.

Station Discontinuance. A railroad was

abandon certain stations and discontinue using them as passenger stops upon a showing that there was insufficient public demand to warrant continued maintenance and that the railroad was not seeking financial benefit from discontinuance, but was attempting to provide better passenger service through decreased running time of the trains. Re New York & L.B.R. Co. et al. Docket No. 7786, March 3, 1954.

Removal of Spur Tracks. The Wisconsin commission authorized a railroad to remove certain spur tracks where it appeared that the company which owned the land adjacent to the tracks desired the removal of same by the railroad. Re Chicago, M. St. P. & P. R. Co. 2-R-2684, February 23, 1954.

Judicial Authority Disclaimed. The Wyoming commission commented that it had no jurisdiction to determine the legal rights and duties arising from an alleged oral promise of a town to supply water service to a property owner residing outside the corporate limits. Call et al. v. Town of Afton, Docket No. 9245, March 18, 1954.

Certificate Canceled. The Pennsylvania superior court held that the commission had authority to cancel a certificate previously granted a bus carrier, after the court had remanded the record and proceedings to the commission to make further study and specific findings of fact. Sonafelt et al. v. Pennsylvania Pub. Utility Commission, 103 A2d 442.

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Federal Power Commission

v.

Niagara Mohawk Power Corporation

No. 28 — US —, 98 L ed —, 74 S Ct 487 March 15, 1954

REVIEW of judgment of United States Court of Appeals remanding Federal Power Commission order determining surplus earnings of power company to be set aside in amortization reserve; affirmed. For lower court decision, see (1952) 91 US App DC 395, 100 PUR NS 350, 202 F2d 190.

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- Expenses, § 120 Electric company Rentals for water rights Amortization reserves of power project licensee.
 - 2. Expenses paid or incurred by a power project licensee for the use of private proprietary water rights, existing under state law, for power purposes are proper expenses for the purpose of computing the licensee's surplus earnings to be paid into its amortization reserve required by § 10(d) of the Federal Power Act, 16 USCA § 803(d), p. 34.
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- Water, § 18 Rights on navigable streams Effect of federal legislation.
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- Water, § 18 Federal use of navigable waters Payment for privilege.

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- Water, § 18 Water rights on navigable streams Effect of federal legislation.

 Statement, in dissenting opinion, that if a power project licensee must pay for its water rights without being reimbursed by the United States, that is the price it must pay for its federal license, p. 44.

(Douglas, Black, and Minton, JJ., dissent.)

APPEARANCES: Willard W. Gatchell, of Washington, D. C., argued the cause for petitioner; John W. Davis, of New York city, argued the cause for respondent.

Mr. Justice Burton delivered the opinion of the court.

[1, 2] The most significant issue raised by this case is whether the Federal Water Power Act of 1920¹ has abolished private proprietary rights,

existing under state law, to use waters of a navigable stream for power purposes. We agree with the court of appeals that it has not. We agree also that in computing a federal licensee's amortization reserve, required by § 10 (d) of that act, as amended, the Federal Power Commission was not justified in disallowing the expenses paid or incurred by the licensee in this case for the use of such rights.

March 2, 1921, Niagara Falls Pow-

¹ The Federal Water Power Act of 1920, 41 Stat 1063, as amended, is now Part I of the Federal Power Act, 49 Stat 838, 16 USCA §§ 791a-825r.

^{\$\\$ 791}a-825r.
2 "Section 10. All licenses issued under this part shall be on the following conditions:

[&]quot;(d) That after the first twenty years of operation, out of surplus earned thereafter, if any, accumulated in excess of a specified reasonable rate of return upon the net invest-

ment of a licensee in any project or projects under license, the licensee shall establish and maintain amortization reserves, which reserves shall, in the discretion of the commission, be held until the termination of the license or be applied from time to time in reduction of the net investment. Such specified rate of return and the proportion of such surplus earnings to be paid into and held in such reserves shall be set forth in the license. . . ." 49 Stat 842, 843, 16 USCA § 803(d).

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er Company, a New York corporation, predecessor in interest of Niagara Mohawk Power Corporation, a New York corporation, respondent herein, secured from the Federal Power Commission the federal license with which we are concerned. It was the first such license issued under the Federal Water Power Act of 1920. Its term was fifty years. It authorized the diversion of water for power purposes from the Niagara river, above the Falls, and the return of it below the Falls, all in New York. The daily diversion, in the aggregate, could not exceed 19,500 cubic feet per second (cfs).3

Section 10(d) of the act requires each licensee, after twenty years of operation under such a license, to establish and maintain amortization reserves out of any surplus thereafter earned and accumulated in excess of a reasonable return upon the licensee's net investment. Section 14 makes such net investment, plus severance damages, a principal measure of the price the government is to pay when and if it takes over all or part of the property.⁴ In 1942, the commission expressly held that § 14 applied to this licensee.⁵

In 1947, Article 11 of the license was amended so as to specify a 6 per cent rate of return and to require 50 per cent of the licensee's surplus earnings to be paid into its amortization reserves. As so amended, the article read:

"After the first twenty years of operation of the project under this license, namely after March 1, 1941, 6 per cent per annum shall be the specified rate of return on the net invest-

³ This limit soon was increased to 19,725 cfs (1947) 6 FPC 184, 185, 73 PUR NS 28, and later to 20,000 cfs, see (1950) 9 FPC 228, 244, note 28. The Treaty between the United States and Great Britain relating to boundary waters between the United States and Canada, proclaimed, May 13, 1910, limited the diversion from the United States side to 20,000 and on the Canadian side to 36,000 cfs. 36 Stat 2448, 2450. As to additional emergency and temporary diversions, see 55 Stat 1276, 1380; 1 US Treaties and Other International Agreements 694.

449 Stat 844, 845, 16 USCA § 807. See also, § 16 as to compensation to be paid for temporary use of the property by the government, 41 Stat 1072, 16 USCA § 809; § 20 as to rate fixing, 41 Stat 1073, 1074, 16 USCA § 813; and § 26 as to a purchase by the government at a judicial sale, 41 Stat 1076, 16 USCA § 820. "Net investment" is defined in § 3 as follows:

"(13) 'net investment' in a project means the actual legitimate original cost thereof as defined and interpreted in the 'classification of investment in road and equipment of steam roads, issue of 1914, Interstate Commerce Commission,' plus similar costs of additions thereto and betterments thereof, minus the sum of the following items properly allocated thereto, if and to the extent that such items have been accumulated during the period of the license from earnings in excess of a fair return on such investment: (a) Unappropriated

surplus, (b) aggregate credit balances of current depreciation accounts, and (c) aggregate appropriations of surplus or income held in amortization, sinking fund, or similar reserves, or expended for additions or betterments or used for the purposes for which such reserves were created. . . ." 49 Stat 839, 16 USCA § 796 (13).

In the instant case the commission explains that—

"Section 10 (d) is part of a larger pattern of fairness set up by the act to induce water-power development. Licensees are assured a 'fair return,' but the public is safeguarded against profiteering by a licensee through profits beyond a fair return. At the end of the license period and upon 'recapture' by the federal government, earnings throughout the license period are to be tested against a fair return standard set up in § 3(13)." 9 FPC at p. 248.

at p. 248.

⁵ This resulted from the decision that the "fair value" provisions of § 23(a), 49 Stat 846, 16 USCA § 816, applied to licenses to use water rights previously held under permits from the federal government, whereas this licensee's prior water rights, if any, arise under the law of New York. Re Niagara Falls Power Co. (1942) 3 FPC 206, 44 PUR NS 291, affd by the court of appeals for the second circuit in Niagara Falls Power Co. v. Federal Power Commission (CCA2d 1943) 51 PUR NS 40, 137 F2d 787.

UNITED STATES SUPREME COURT

ment in the project for determining surplus earnings in accordance with the provisions of § 10(d) of the act for the establishment and maintenance of amortization reserves to be held until termination of the license, or in the discretion of the commission, to be applied from time to time in reduction of the net investment in the project, and one-half of all surplus earnings in excess of 6 per cent per annum received in any calendar year shall be paid into and held in such amortization reserves."

In 1948, the commission began this proceeding to determine the licensee's amortization reserve liability. It was the commission's first such effort under § 10(d). In 1949, pursuant to a revised staff report, the commission directed the holder of this license to show cause why one-half of its surplus earnings from March 2, 1941, through December 31, 1946, in the amount of \$994,521.33, should not be set aside in an amortization reserve, and why a like proportion of its subsequent surplus earnings should not be set aside annually upon a comparable basis. In 1950, the commission's presiding examiner recommended that the licensee's initial reserve be \$914,-432.04, and the commission approved that figure in preference to \$515,-432.04 proposed by the licensee. One

commissioner filed a concurring state-(1950)9ment and one dissented. FPC 228. However, the court of appeals for the District of Columbia circuit, one judge dissenting, upheld the licensee and remanded the case to the commission with instructions to modify its order accordingly. (1952) 91 US App DC 395, 100 PUR NS 350, 202 F2d 190.⁷ The decision turned primarily upon the court's conclusion that neither the Federal Water Power Act nor the issuance of a license thereunder had abolished the licensee's private proprietary rights to use the waters of Niagara river for power pur-That issue was inescapable poses. because the commission, in computing the licensee's required amortization reserve, had found that certain annual payments and discounts made by the licensee for its use of private water rights, existing under state law, along the Niagara river, were not allowable expenses for the reason that the commission considered those rights no longer existent. The court of appeals held precisely the contrary and we granted certiorari because of the important bearing of the decision upon the Federal Water Power Act. (1953) 345 US 955, 97 L ed 1376. 73 S Ct 939.

The immediate issue thus presented is whether the licensee's amortization

⁶ A proceeding seeking the commission's approval of a further amendment to Article 11 was consolidated with the show-cause proceedings in the instant case. In response, the commission, in 1950, ordered that article amended to read:

[&]quot;After the first twenty years of operation of the project under this license, 6 per cent per annum shall be the specified rate of return on the net investment in the project for determining surplus earnings and for the establishment and maintenance of amortization reserves, pursuant to § 10(d) of the act; one-half of all earnings in excess of 6 per cent per annum shall be paid into such amortization reserves

and such amortization reserves shall be established, maintained, and disposed of in accordance with the terms of the act and such rules, regulations, and orders of the commission as may be adopted pursuant thereto." 9 FPC at p. 259.

Under the above amendment, the method of setting aside the amortization reserves may be prescribed by the commission. 9 FPC at pp. 232, 233, 239.

7 Per curiam. Kimbrough Stone, circuit

⁷Per curiam. Kimbrough Stone, circuit judge, retired, from the eighth circuit, sitting by designation; Wilbur K. Miller, circuit judge. Dissenting, Bazelon, circuit judge.

reserve under § 10(d), for the period from March 2, 1941, through December 31, 1946, should be \$914,432.04 or \$515,432.04.8 That difference of \$399,000 is one-half of the \$798,000 which the commission believes should be included in the surplus earnings of the licensee for the period. It consists of—

1. \$577,500 paid by the licensee, at the rate of \$99,000 a year, for its use, for power purposes, of 730 cfs of the "International Paper water rights," and

2. \$220,500 allowed by the licensee as a discount, at the rate of \$37,800 a year, on certain sales of electric power in consideration of permission to use, for power purposes, 262.6 cfs of the "Pettebone-Cataract water rights."

The court of appeals held that although respondent's predecessor, in 1921, had received a federal license for this project, it nevertheless was justified in continuing to meet the financial obligations which it had assumed in return for permission to use water rights originally granted and still existing under the law of New York. That court, accordingly, approved each of the foregoing items of expense and fixed the licensee's initial amortization reserve at \$515,432.04.

It was not questioned in the court of appeals or here that the licensee originally had acquired, in return for the above-stated payments and discounts, some kind or degree of private proprietary rights under the law of New York to use water from the Niagara river for power purposes. Accordingly, we do not consider it necessary to review here the intricate transactions which resulted in the above-described payments and discounts. We accept the conclusion of the court of appeals "that the International Paper and Pettebone-Cataract water rights are valid under the law of New York." Supra, 100 PUR NS at p. 364, 202 F2d at p. 202.9 For further recognition of these water rights under state law, see Water Power & Control Commission v. Niagara Falls Power Co. (1941) 262 App Div 460, 30 NYS2d 371, affd (1942) 289 NY 353, 45 NE2d 907; Niagara Falls Power Co. v. Duryea (1945) 185 Misc 696, 57 NYS2d 777.

Neither is it necessary for us to discuss the licensee's expenses in 1947 or thereafter. They must be treated in the same way as those above mentioned, except to note that the discounts allowed in return for the Pettebone-Cataract water rights ceased with the licensee's purchase of those rights in 1947. See *supra*, 100 PUR NS at p. 356, 202 F2d at p. 196.

[3] We are not required to determine the nature of the rights claimed by respondent except to recognize that they are usufructuary rights to use the water for the generation of power, as distinguished from claims to the legal ownership of the running water itself. They are rights to use the force of the fall of the water,

⁸ For computations, see Appendix, *infra*, p. 415. [Appendix omitted herein.]

⁹ Respondent's corporate history and the devolution of the title to the International Paper and the Pettebone-Cataract water rights are described by the court of appeals in 91 App DC 395, 100 PUR NS 350, 202 F2d 191, at pp. 194-197, 198-202. See also Niagara Falls

Power Co. v. Federal Power Commission (CCA2d 1943) 51 PUR NS 40, 137 F2d 787. For a detailed examination of the facts and issues of the instant case, see Schwartz, Niagara Mohawk Power Corp. v. Federal Power Commission (supra): Have Private Water Rights Been Destroyed by the Federal Power Act?, 102 U of Pa Law Rev 31.

coupled with an obligation to return the water to the river under specified conditions.10 The rights under consideration originally were attached to riparian lands above and below the Falls. However, they long have been separated from such lands and, thus separated, they have been transferred or leased to respondent. Under the law of New York, they constitute a form of real estate known as corporeal hereditaments.11 The commission does not now contest the purchase prices which have been paid for any of these The commission's present rights. objection is limited to respondent's deduction, in the computation of its amortization reserves, of the annual payments and discounts it has made

and which it proposes to make for the use of such rights. The commission contends (1) that Congress not only may constitutionally abolish such local water rights without compensation but that it already has done so, and (2) that, although the licensee's contested expenditures may be lawful, or even obligatory, between the parties, they must be disallowed in computing the licensee's amortization reserve under § 10(d).

We conclude, as did the court of appeals, that, even though respondent's water rights are of a kind that is within the scope of the government's dominant servitude, the government has not exercised its power to abolish them.12

[4-9] While we recognize the

While the right to its use, as it flows along in a body, may become a property right, yet the water itself, the corpus of the stream, never becomes or, in the nature of things, can become, the subject of fixed appropriation or exclusive dominion, in the sense that property in the water itself can be acquired, or become the subject of transmission from one to another. Neither sovereign nor subject can acquire anything more than a mere usufructuary right therein, and in this case the state never acquired, or could acquire, the ownership of the aggregated drops that comprised the mass of flowing water in the lake and outlet, though it could and did acquire the right to its use." Sweet v. Syracuse (1891) 129 NY 316, 335, 27 NE 1081, 1084, 29 NE 289.

11 A riparian owner in New York has a right to use the waters of an abutting stream as part of his estate. United Paper Board Co. v. Iroquois Pulp & Paper Co. (1919) 226 NY 38, 123 NE 200; Waterford Electric Light, Heat & P. Co. v. State (1924) 208 App Div 273, 203 NYS 858, affd (1925) 239 NY 629,

147 NE 225.

Recovery by the International Paper Company for the deprivation of its use of the instant water rights in 1917 was authorized by this court in 1931. Referring to the 730 cfs now before us, Mr. Justice Holmes said for the court: "From this canal the petitioner, the International Paper Company, was en-titled, by conveyance and lease, to draw and was drawing 730 cubic feet per second-a right that by the law of New York was a corporeal hereditament and real estate." International Paper Co. v. United States (1931) 282 US

399, 405, 75 L ed 410, 413, 51 S Ct 176. The government was obliged to pay for taking those diversionary rights by condemnation and they are the ones for which respondent is now paying an annual rental of \$99,000. The deprivation, therefore, was not an exercise of the government's dominant servitude, but was a compensable taking by condemnation of the paper company's recognized right to use the "[T]he government took the property that the petitioner owned as fully as the Power Company owned the residue of the water power in the canal." Id. 282 US at p. 408. See also Van Etten v. New York (1919) 226 NY 483, Van Etten v. New York (1919) 226 NY 485, 124 NE 201, and People ex rel. Niagara Falls Hydraulic Power & Mfg. Co. v. Smith (1902) 70 App Div 543, 546, 75 NYS 1100, 1101, affd without opinion (1903) 175 NY 469, 67 NE

12 The existence of the Pettebone Cataract water rights, under the law of New York prior to the Federal Water Power Act, is recognized by the court of that state. Hydraulic Power Co. of Niagara Falls v. Pettebone Cataract Paper Co. (1920) 112 Misc 528, 183 NYS 373, affd (1921) 198 App Div

644, 191 NYS 12.

Furthermore, Article 13 of the license recognizes at least the possibility of the survival of these rights after the issuance of the license. It provides that in the event the United States or a new licensee shall take over the project "Such taking over of the project shall also be subject to the rights, if any, of Pettebone Cataract Paper Company and Cataract City Milling Company to withdraw water at a rate not exceeding 265 cubic feet per second from the Hydraulic Canal or Basin of Licensee, and

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dominant servitude, in favor of the United States, under which private persons hold physical properties obstructing navigable waters of the United States and all rights to use the waters of those streams,18 we recognize also that the exercise of that servitude, without making allowances for preexisting rights under state law, requires clear authorization. A classic example of such a clear authorization appears in United States v. Chandler-Dunbar Water Power Co. (1913) 229 US 53, 57 L ed 1063, 33 S Ct 667. The act of March 3, 1909, there authorized the exercise of the dominant right of the United States to take all of a navigable river's flow for purposes of interstate commerce. It did so in explicit terms. It said:

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"Section 11. . . . the ownership in fee simple absolute by the United States of all lands and property of every kind and description north of the present Saint Marys Falls Ship Canal throughout its entire length and lying between said ship canal and the international boundary line at Sault Sainte Marie, in the state of Michigan,

is necessary for the purposes of navigation of said waters and the waters connected therewith.

"The Secretary of War is hereby directed to take proceedings immediately for the acquisition by condemnation or otherwise of all of said lands and property of every kind and description, in fee simple absolute. . . .

"Every permit, license, or authority of every kind, nature, and description heretofore issued or granted by the United States, or any official thereof, to the Chandler-Dunbar Water Power Company . . . shall cease and determine and become null and void on January first, nineteen hundred and eleven" 35 Stat 820, 821.

In that case the government took the entire flow of the stream exclusively for purposes of interstate commerce. The court accordingly recognized the government's absolute right, within the bed of the stream, to use all of the waters flowing in the stream, for purposes of interstate commerce, without compensating anyone for the use of those waters.¹⁴

That decision is not applicable here.

to the rights, if any, of International Paper Company." (1947) 6 FPC 184, 185, 73 PUR NS 28, 29.

In 1947, the licensee secured the approval of the New York Public Service Commission, and of the Securities and Exchange Commission (under § 12 (d) of the Public Utility Holding Company Act of 1935, 49 Stat 824, 15 USCA § 79! (d)) of its purchase of the Pettebone Cataract rights from the licensee's parent corporation for \$728,415.48. Having thus completed their purchase, the licensee petitioned the commission to amend Article 13 by striking from it the above-italicized reference to these rights. The commission declined and, accordingly, the original reference to the Pettebone Cataract rights, as well as that to the rights of the International Paper Company, remains in the license.

The commission's denial of the requested amendment was on the ground that its consent to the omission of the original equivocal reference to the rights "might be construed as recognizing other alleged water rights claimed by another company." 6 FPC, at p. 188, 73 PUR NS at p. 32. The commission took the position that the rights in question had no existence after the enactment of the Federal Water Power Act and it now regards itself as controlled by that reasoning. (1950) 9 FPC at pp. 252, 258, 259. Its action, however, was not considered by the court of appeals to be dispositive of the issue and it is not binding upon us.

upon us.

13 United States v. Willow River Power Co.
(1945) 324 US 499, 89 L ed 1101, 65 S Ct 761;
United States v. Chicago, M. St. P. & P. R.
Co. (1941) 312 US 592, 85 L ed 1064, 61 S Ct
772; United States v. Appalachian Electric
Power Co. (1940) 311 US 377, 36 PUR NS
129, 85 L ed 243, 61 S Ct 291. See also United
States v Kansas City Life Ins. Co. (1950)
339 US 799, 94 L ed 1277, 70 S Ct 885.

14 It was in this connection that the court pointed out the inconceivability of private ownership in the running water of navigable

The issue here is whether the much more general and regulatory language of the Federal Water Power Act shall be given the same drastic effect as was required there by the language of the Act of March 3, 1909. We find nothing in the Federal Water Power Act justifying such an interpretation. Neither it, nor the license issued under it, expressly abolishes any existing proprietary rights to use waters of the Niagara river. Unlike the statute in the Chandler-Dunbar Case, the Federal Water Power Act mentions no specific properties. It makes no express assertion of the paramount right of the government to use the flow of the Niagara or of any other navigable stream to the exclusion of existing users. On the contrary, the plan of the act is one of reasonable regulation of the use of navigable waters, coupled with encouragement of their development as power projects by private parties. 15

The act "discloses both a vigorous determination of Congress to make progress with the development of the

long idle water-power resources of the nation and a determination to avoid unconstitutional invasion of the jurisdiction of the states. . . .

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"The act leaves to the states their traditional jurisdiction subject to the admittedly superior right of the federal government, through Congress, to regulate interstate and foreign commerce" First Iowa Hydro-Electric Cooperative v. Federal Power Commission (1946) 328 US 152, 171, 63 PUR NS 193, 203, 90 L ed 1143, 1153, 66 S Ct 906.

The act treats usufructuary water rights like other property rights. While leaving the way open for the exercise of the federal servitude and of federal rights of purchase or condemnation, there is no purpose expressed to seize, abolish, or eliminate water rights without compensation merely by force of the act itself. 16

The references in the act to preexisting water rights carry a natural implication that those rights are to survive, at least until taken over by purchase or otherwise.¹⁷ Riparian

streams as distinguished from private proprietary rights to the use of such water for power and other purposes. United States v. Chandler-Dunbar Water Power Co. (1913) 229 US 53, 69, 70, 57 L ed 1063, 33 S Ct 667.

15 United States ex rel. Chapman v. Federal

16 United States ex rel. Chapman v. Federal Power Commission (1953) 345 US 153, 167, 168, 97 PUR NS 129, 97 L ed 918, 930, 931, 73 S Ct 609; First Iowa Hydro-Electric Coperative v. Federal Power Commission (1946) 328 US 152, 180, 181, 63 PUR NS 193, 90 L ed 1143, 1158, 1159, 66 S Ct 906. The act was dedicated to "encouraging private enterprise and the investment of private capital" in power projects on a basis consistent with the public interest. HR Rep No. 61, 66th Cong, 1st Sess 3. The bill was to provide "a method by which the water powers of the country, wherever located, can be developed by public or private agencies under conditions which will give the necessary security to the capital invested and at the same time protect and preserve every legitimate public interest." Statement of David F. Houston, Secretary of Agriculture, Id., at 5.

16 Section 14 even provides: "nor shall the values allowed for water rights, rights of way, lands, or interest in lands [used in computing a licensee's net investment] be in excess of the actual reasonable cost thereof at the time of acquisition by the licensee: "(Emphasis supplied.) 49 Stat 844, 845, 16 USCA § 807.

17 In § 3 (11), 16 USCA § 796 (11) "pro-

17 In § 3 (11), 16 USCA § 796 (11) "project" is said to include "all water-rights... necessary or appropriate in the maintenance and operation of the unit," 49 Stat 838, 839; § 4 (b) empowers the commission, in determining the original cost of a project and the net investment in it, to require licensees to show "the price paid for water rights" as well as for lands, 49 Stat 839; § 9 (b) requires an applicant for a license to submit evidence of whatever compliance he has made with the requirements of state law with respect to "the appropriation, diversion, and use of water for power purposes," 41 Stat 1068; § 14 requires, when taking over a licensed project, that the "values allowed for water rights" shall not be "in excess of the actual

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water rights, like other real property rights, are determined by state law. Title to them is acquired in conformity with that law. The Federal Water Power Act merely imposes upon their owners the additional obligation of using them in compliance with that act.

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The legislative history of the act discloses no substantial support for the drastic policy which the commission seeks to read into it. To convert this act from a regulatory act to one automatically abolishing pre-existing water rights on a nation-wide scale calls for a convincing explanation of that purpose. We find none. In fact, the legislative history points the other way. Representative William L. La Follette, of Washington, a member of the House Special Committee on Water Power which reported substantially the same bill as that which in 1920 became the Federal Water Power Act. said of it in 1918:

"This bill is not based on either the government's ownership or its sovereign authority, but on the hypothesis that we as representatives of the states have authority to act for the states in matters of this character and pass laws for the general good, by the establishment of a limited trusteeship or commission composed of officials of the government, to carry out and admin-

ister this law in such a way as not to infringe any of the rights of the states nor to impede or restrict navigation, but rather to benefit it. . . . Under this bill we only allow the commission a supervisory power over those functions entirely within the state's jurisdiction for the period covered by any license, the state having exercised its rights in advance of issue." 56 Cong Rec 9110.

Shortly thereafter he added: "If we put in this language [of § 9(b)], which is practically taken from that Supreme Court decision [United States v. Cress (1917) 243 US 316, 61 L ed 746, 37 S Ct 380], as to the property rights of the states as to the bed and the banks and to the diversion of the water, then it is sure that we have not infringed any of the rights of the states in that respect, or any of their rules of property We are earnestly trying not to infringe the rights of the states." Id., at 9810.18

In 1930, this court passed upon the basic question now before us when it came here in a different connection. In Henry Ford & Son v. Little Falls Fibre Co. (1930) 280 US 369, 74 L ed 483, 50 S Ct 140, Mr. Justice Stone, writing for a unanimous court, held that a riparian owner of a right to use water for power purposes in the

reasonable cost thereof at the time of acquisi-tion by the licensee" (Commissioner Smith em-phasized the significance of this clause, 9 FPC, at p. 261), 49 Stat 844, 845; § 23 (b) recog-nizes the application of state laws to projects where interstate or foreign commerce, public lands and reservations are not affected, 49 Stat 846; § 27 provides that "nothing herein con-tained shall be construed as affecting or intend-ing to affect or in any way to interfere with the ing to affect or in any way to interfere with the laws of the respective states relating to the control, appropriation, use, or distribution of water used in irrigation or for municipal or

other uses, or any vested right acquired therein," 41 Stat 1077. See 16 USCA §§ 796–821.

reasonable cost thereof at the time of acquisi-

18 In 1917, the Senate Committee on Com-

"[T]he bill is so framed as to protect and maintain the constitutional power and control of the federal government over navigable streams, as well as the sovereignty of the states and the rights of riparian proprietors over and in the beds and waters of those streams, and allow the full exercise and enjoyment of the latter, subject to the paramount authority of Congress to regulate the same for navigation purposes." S Rep No. 179, 65th Cong, 2d Sess 4, as to S 1419.

For a history of the congressional debates and hearings, see Kerwin, Federal Water-Power Legislation (1926).

navigable Mohawk river, in New York state, was entitled to an injunction against the uncompensated destruction of that right by a subsequent licensee under the Federal Water Power Act. The New York supreme court had granted such an injunction and awarded damages. This court affirmed that decision, although the federal license then before the court had authorized the licensee to raise the navigable waters of the Hudson river to such an extent that they would destroy the value of the riparian owner's right, under state law, to use the fall of tributary waters of the Mohawk for power purposes. It was thus held that the Federal Water Power Act had not abolished the complainant's private proprietary water rights, existing under New York law, to use navigable waters for power purposes.19

"[E]ven though the rights which the respondents [the riparian owners] here assert be deemed subordinate to the power of the national government to control navigation, the present legislation does not purport to authorize a licensee of the commission to impair such rights recognized by state law without compensation." Id. 280 US at p. 377.

After quoting from §§ 10(c) (liability for damages caused by the licensed project), 27 (saving clause as to proprietary rights under state law), 21 (condemnation rights), and 6 (licensee's acceptance of the conditions of the act), the court added:

"While these sections are consistent with the recognition that state laws affecting the distribution or use of

water in navigable waters and the rights derived from those laws may be subordinate to the power of the national government to regulate commerce upon them, they nevertheless so restrict the operation of the entire act that the powers conferred by it on the commission do not extend to the impairment of the operation of those laws or to the extinguishment of rights acquired under them without remuner-We think the interest here asserted by the respondents, so far as the laws of the state are concerned, is a vested right acquired under those laws and so is one expressly saved by § 27 from destruction or appropriation by licensees without compensation, and that it is one which petitioner [the licensee], by acceptance of the license under the provisions of § 6, must be deemed to have agreed to recognize and protect." Id. 280 US at pp. 378, 379.

Parallel reasoning has been applied in a case involving a conflict between a licensee and the holder of state-recognized rights to use water from a navigable stream for irrigation purposes. United States v. Gerlach Live Stock Co. (1950) 339 US 725, 734, 94 L ed 1231, 1239, 70 S Ct 955, 20 ALR2d 633. See also, as to statecreated water rights for power purposes, Grand River Dam Authority v. Grand-Hydro (1948) 335 US 359, 372, 93 L ed 64, 73, 69 S Ct 114; Pike Rapids Power Co. v. Minneapolis, St. P. & S. Ste. M. R. Co. (CCA8th 1938) 99 F2d 902; United States v. Central Stockholders' Corp. (CCA9th 1931) 52 F2d 322; Rank v. Krug

¹⁹ The court refrained from determining whether § 21 of the act, as to eminent domain, gave the licensee a further right to condemn

and thus pay for the pre-existing rights. Id. 280 US 369, 379, 74 L ed 483, 50 S Ct 140.

(DC Cal 1950) 90 F Supp 773, 793; Great Northern R. Co. v. Washington Electric Co. (1939) 197 Wash 627, 86 P2d 208.

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In First Iowa Hydro-Electric Cooperative v. Federal Power Commission (1946) 328 US 152, 175, 176, 63 PUR NS 193, 205, 90 L ed 1143, 1155, 1156, 66 S Ct 906, § 27 of the act was discussed in relation to conditions controlling the approval of projects. The language there used is applicable to proprietary water rights for power purposes as well as those for other proprietary uses. To any extent that statements in Alabama Power Co. v. Gulf Power Co. (DC Ala 1922) 283 Fed 606, cited in the First Iowa Hydro-Electric Cooperative Case, supra, indicate a different interpretation, they are not controlling.

Respondent's private property rights are rooted in state law, subject to the paramount rights of the state and nation. In the instant case, both the state and the nation have made limited assertions of their superior rights. New York has done so through its rental charges and the nation through its license. Neither, however, has laid claim to such an exclusive right to the waters as eliminates the limited use which respondent here seeks to make of them.

The findings of the commission and the action of the court of appeals disclose no sufficient additional circumstances demonstrating the unreasonableness of the expenses in question.²⁰

The judgment of the court of appeals, accordingly, is

Affirmed.

20 Claims of the state of New York, in its own favor, suggested in its brief or oral argument as amicus curiae, are not before us.

Mr. Justice Reed withdrew from the consideration and decision of this case.

Mr. Justice Jackson took no part in the consideration or decision of this case.

Mr. Justice Douglas, with whom Mr. Justice Black and Mr. Justice MINTON concur, dissenting: Section 10(d) of the Federal Power Act, 41 Stat 1069, as amended, 16 USCA § 803(d), requires licensees to set up amortization reserves out of their surplus earnings. The commission enforced this requirement by ordering Niagara to make a book transfer of surplus earnings to an amortization reserve account. In determining the amount of earnings available for amortization the commission refused to allow certain water-right payments as expenses. The only question before the court is whether the commission could lawfully disregard these expenses in computing Niagara's earnings for § 10(d) purposes.

The amortization reserve required by § 10(d) serves the function of reducing Niagara's net investment. Section 3(13). Niagara's net investment is the measure of the amount the United States must pay if it decides to recapture Niagara's plant under § 14 of the act.¹ By allowing these waterright payments as expenses for this purpose the court increases the ultimate obligation of the United States.

It may be that Niagara is under a legal duty to pay for its water rights under state law. And I agree that the Federal Power Act was not intended to interfere with water rights created

¹The same is true in case the United States moves to acquire the properties under § 26 by judicial sale.

UNITED STATES SUPREME COURT

by state law. But it is not true that the United States can be made to pay, directly or indirectly, for the use of the waters of a navigable stream. That has been settled at least since United States v. Chandler-Dunbar Water Power Co. (1913) 229 US 53, 57 L ed 1063, 33 S Ct 667.² "Ownership of a private stream wholly upon the lands of an individual is conceivable; but that the running water in a great navigable stream is capable of private ownership is inconceivable." Id. 229 US at p. 69. If Niagara must pay for

its water rights without being reimbursed by the United States, that is the price Niagara must pay for its federal license. See United States v. Appalachian Electric Power Co. (1940) 311 US 377, 36 PUR NS 129, 85 L ed 243, 61 S Ct 291; cf. Regents of University System of Georgia v. Carroll (1950) 338 US 586, 94 L ed 363, 70 S Ct 370. The Federal Power Act should not be construed as requiring the United States to pay for something it already owns. But that is precisely what the court does today.

² See also United States v. Chicago, M. St. P. & P. R. Co. (1941) 312 US 592, 85 L ed 1064, 61 S Ct 772; United States v. Commodore Park (1945) 324 US 386, 89 L ed 1017, 65 S Ct 803; United States v. Willow River Power Co. (1945) 324 US 499, 89 L ed 1101, 65 S Ct 761.

§ The command of § 14 is otherwise. It excludes from the "net investment," which must be paid if the federal government decides to recapture the project, "the value of any lands, rights of way, or other property of the United States licensed by the commission under this act."

PENNSYLVANIA COURT OF COMMON PLEAS, ALLEGHENY COUNTY

Duquesne Light Company v. Township of Upper St. Clair

No. 1917

March 25, 1954

Pagainst town's interference with construction of transmission line; granted.

Injunction, § 54 — Parties to suit against town.

1. A power company, seeking a preliminary injunction against a township's interfering with construction of a transmission line, may properly join with the township as defendants, the individual commissioners, the secretary, and enforcement officer of the township, p. 50.

Municipalities, § 5 — Regulation of utilities — Zoning laws — Conflicting commission powers.

2. A first-class township has no power to regulate a public utility by zoning ordinance, since the legislature has committed the regulation of utilities to the public utility commission, p. 51.

3 PUR 3d

DUQUESNE LIGHT CO. v. UPPER ST. CLAIR

Municipalities, § 12 — Zoning ordinances — Effect on power company.

3. The zoning ordinance of a town is illegal and void when applied to the construction of a transmission line by a power company, p. 51.

Commissions, § 20 — Exclusive authority over utility.

4. The power of the commission to regulate and supervise public utilities excludes townships from the same field, and no power over utilities can be read into the first-class township law by implication, p. 51.

Eminent domain, § 4 — Statutory right — Conflict with ordinance.

5. In the event of a conflict between the exercise of the right of eminent domain by a public utility pursuant to statute and the application of the provisions of a zoning ordinance of a first-class township, the latter must yield, p. 51.

Injunction, § 11 - Exhaustion of remedies.

6. The rule requiring exhaustion of administrative remedies has no application to an injunction proceeding brought by an electric company against a town's proceeding under a zoning law to interfere with the construction of a transmission line, p. 55.

Injunction, § 38 — Irreparable injury — Equity jurisdiction — Interference with utility construction.

7. A court of equity has jurisdiction over a preliminary injunction proceeding brought by a utility against a town's attempt to prevent construction of a transmission line by threatening to collect substantial cumulative penalties for each day that work is in progress and the construction maintained, where the utility would be irreparably damaged by the penalties and by the time lost on the construction because of the town's interference, p. 55.

Commissions, § 20 — Authority over utilities.

Discussion of the reason why the legislature entrusted the regulation of utilities to a commission of statewide jurisdiction rather than to local authorities, p. 54.

Soffel, J.:

Adjudication

Duquesne Light Company, a corporation, plaintiff, brought suit in equity against township of Upper St. Clair, a political subdivision of the commonwealth of Pennsylvania; Casimir J. Munter, Walter Smith, Edmund C. Jones, Alexander W. MacRae, and Francis H. Luxbacher, Commissioners, Edward Nordsiek, Secretary, and John Klancher, police officer, defendants, requesting the court to issue a preliminary injunction to enjoin defendants from inter-

fering with, obstructing, or delaying plaintiff in the construction of a transmission line across certain properties in Upper St. Clair township and to restrain defendants from prosecuting or threatening to prosecute plaintiff for alleged violation of the zoning ordinance of said township.

From the testimony taken at the trial, the chancellor makes the following

Findings of Fact

(1) The plaintiff, Duquesne Light Company, is a public service corporation organized and existing under the laws of the commonwealth of Pennsylvania and engaged in the generation, transmission, distribution, and sale of electric energy in the city of Pittsburgh and other municipalities in Allegheny, Beaver, and Westmoreland counties.

(2) The defendant, Upper St. Clair township, is a first-class township of the county of Allegheny, commonwealth of Pennsylvania.

(3) The other defendants are officers of said township. The first five are township commissioners: Edward Nordsiek is the Secretary and John Klancher the police officer.

(4) Duquesne has constructed and is now operating a power plant known as "Elrama Power Station" located in parts of Jefferson borough, Allegheny county, Pennsylvania, and Union township, Washington county, Pennsylvania, in which electric energy is generated.

(5) Duquesne has constructed and operates a substation at Woodville, Collier township, Allegheny county, Pennsylvania, from which electric energy for light, heat, and power is distributed locally and transmitted to other parts of the Duquesne system.

(6) The demand for electric energy for light, heat, and power has increased in the Woodville area and elsewhere in the Duquesne system during recent years. It is essential that additional energy be transmitted to the Woodville substation to care for the increased demand.

(7) The total generating capacity of the Duquesne system, including the two generators heretofore installed at Elrama, is 955,800 kw. A peak load of 940,000 kw has been imposed upon the system with the result that the

generating reserve capacity system is now 15,800 kw, or 1.65 per cent of the installed generating power. The minimum generating reserve necessary to provide adequately for maintenance and breakdowns and to insure adequate service to customers is 10 per cent.

(8) Duquesne is presently installing at its Elrama power station a third generating unit designated as "No. 3 generator" which is to be completed and placed in operation on September 1, 1954. In order to provide sufficient generating capacity to supply the system's peak load demand and to meet the growing requirements of its system, Duquesne proposes to construct a transmission line between the Elrama power station and the Woodville distributing substation. The proposed line passes through seven autonomous political subdivisions: Jefferson township, Snowden township, Bethel borough, Upper St. Clair township, Bridgeville borough, Scott township, and Collier township. The site for the proposed transmission line from Elrama to Woodville is the result of the studied judgment of the planning, engineering, construction, and right-of-way departments of said company. The determining factors in the location of said line were efficiency and economy. The proposed new transmission line will be the principal means of transmitting the output of the Elrama No. 3 generator to Duquesne's 69,000-volt ring transmission system and of supplying the increased demand for electrical energy in the area served by the Woodville substation.

(9) In order to construct a new transmission line, it became necessary

for Duquesne to acquire by condemnation or purchase the rights of way and easements in and over a portion of Upper St. Clair township which is zoned residential by the township ordinance. Duquesne does not serve any customers in Upper St. Clair township, although it has charter rights to do so, but it owns facilities there and serves the public in immediately adjoining communities.

(10) On February 28, 1953, Duquesne filed, under the act of May 21, 1921, P. L. 1057, its individual applications with the Pennsylvania Public Utility Commission praying for a determination that the service to be rendered through the proposed condemnation of rights of way and easements on and over ten properties in Upper St. Clair township was necessary and proper for the service, accommodation, convenience, or safety of the public.

(11) Subsequently, some of the Upper St. Clair property owners, whose lands were involved in the applications to the commission, appeared before the commission's hearing examiner and, while having filed no answer or protests to the applications on their merits, moved to dismiss the applications for lack of jurisdiction in the commission to entertain them, averring that (1) Duquesne does not serve nor intend to serve the public in Upper St. Clair with electric energy, (2) the act of May 8, 1889, P. L. 136, as amended, 15 PS 1182, does not authorize the commission to approve the exercise of the right of eminent domain by an electric light, heat, or power company for use in a township; and (3) Duquesne had failed to aver in its application that

it had complied with a certain zoning ordinance enacted by Upper St. Clair.

(12) The hearing examiner denied the said motions to dismiss, with leave, however, to file with the commission itself formal petitions for an interim ruling with respect to the jurisdictional issue raised by the property owners. The hearing examiner then proceeded to take the evidence offered by the parties.

(13) Thereafter several of the said property owners filed petitions with the commission, requesting an interim ruling on the jurisdictional issue. Duquesne filed answers to those petitions and, on July 27, 1953, the petitions were denied by the commission.

(14) The property owners' subsequent appeals to the superior court from the commission's denial of their petitions were thereafter quashed, whereupon the property owners filed in the supreme court their applications for leave to appeal from the decisions of the superior court. Said applications were denied, per curiam, by the supreme court on December 18, 1953.

(15) On February 15, 1954, the commission, acting on four of the ten applications filed with it by Duquesne with respect to Upper St. Clair properties, entered orders wherein it determined that the service to be rendered through the proposed condemnation of rights of way and easements on and over said four properties was necessary and proper for the service, accommodation, convenience, or safety of the public.

(16) Duquesne has acquired, by purchase, separate parcels of land, rights of way, and easements with respect to portions of the proposed line traversing Upper St. Clair. Among the property rights acquired, a right of way and an easement were acquired from J. W. Free in and over his land, and a fee simple title was acquired with respect to the property of Fred K. Becker.

- (17) On November 17, 1953, and on November 20, 1953, Duquesne, because of the pressing need for electric energy for light, heat, and power in the Woodville area and elsewhere throughout its system, and for the completion by September 1, 1954, of the new transmission line, commenced work on the Free and Becker properties respectively, looking toward the erection of steel towers thereon for the purpose of carrying the new transmission line.
- (18) On November 30, 1953, Klancher, police officer of the township, served on employees of a contractor engaged by Duquesne and then working on the Free and Becker properties identical printed notices, which read in part as follows:

"UPPER ST. CLAIR TOWNSHIP NOTICE TO

BUILDER OR CONTRACTOR

"In compliance with a zoning ordinance set up in the township a building permit must be secured, through the office of the secretary, before any further construction work is herewith permitted.

"This constitutes a notice of work stoppage, and a fine of \$100 is assessed the owner or builder for failure to meet these requirements.

"Each day that a violation is permitted to exist after this notice has been served shall constitute a separate offense."

- (19) When Klancher served the aforesaid notices, Upper St. Clair was a township of the second class, and the supervisors and secretary thereof then in office authorized and directed his service of the same.
- (20) Upon the receipt of the said notices, Duquesne and its contractor stopped working on the Free and Becker properties, and since that time have not worked there, or elsewhere in Upper St. Clair, along the proposed line.
- (21) The threat of criminal prosecution contained in the said notices. which caused Duquesne and its contractor to cease work along the proposed transmission line, has thus interrupted and prevented, and continues to interrupt and prevent, the commencement and completion, by September 1, 1954, of the transmission line from Elrama to Woodville substation, and thus will hamper the proper generation and transmission of power from the Elrama power station to Duquesne's customers in Allegheny, Beaver, and Westmoreland counties.
- (22) Unless the said line from Elrama to Woodville is completed coincident with the completion of the third generator at Elrama on September 1, 1954, the energy generated by such generator will, in large measure, be unavailable to the Duquesne system under operating or emergency conditions, and thereby Duquesne will suffer large revenue losses and will incur added expenses in attempting to provide adequate service to its customers. Unless Duquesne is permitted to resume the

construction of the said line in and over Upper St. Clair by March 15, 1954, it will not be possible for Duquesne to complete the construction of the said line coincident with the com-

pletion of the said generator.

(23) There is urgent need for additional energy in the southern part of Duquesne's system with respect to the normal reserve for maintenance, repairs, and adequate, efficient transmission of electrical energy. This situation is expected to grow more serious by next winter unless the energy generated by the new generating unit at Elrama is transmitted over the proposed transmission line.

Discussion

Duquesne Light Company proposes to build a transmission line from its power generating station at Elrama across seven autonomous political subdivisions in southwestern Pennsylvania to its distributing substation at Woodville in Collier township. The public utility commission, after a preliminary hearing in which certain Upper St. Clair property owners appeared and were represented by counsel, sanctioned the site of the proposed transmission line. Acting under its local zoning ordinance, officials of Upper St. Clair township have stopped work in said township on this transmission line under threat of prosecution and fine. Duquesne now seeks to enjoin the township and its officials from interfering with this work.

Because of an urgent need for additional energy in the southern part of its system, Duquesne is now constructing a third generator at its power generating station at Elrama. This is to be completed by September 1, 1954.

The power generated there is to be transmitted over the transmission line now under construction. The purpose is to maintain a normal reserve of energy for maintenance, repairs, adequate and efficient transmission, and emergencies.

Duquesne's system can best be pictured as a ring superimposed upon the counties of Allegheny and Beaver. At various points inside and outside the ring and invariably located at a source of almost unlimited water supply are generating stations. At various points on the ring itself are substations whose function is to reduce the voltage transmitted into or around the ring, so as to be usable by consumers in the area surrounding such substations, or to transmit what energy is not used in the area about the substation, on through the ring in the direction of the demand for it. Electric energy generated in a power station such as that at Elrama is fed into a substation located on the ring, and thus made available to the system.

At the present time, the only means by which the energy generated by the two generators at Elrama is available to the ring is through the transmission lines from Elrama to the Dravosburg substation on the ring. Those transmission lines will be capable of carrying all of the energy producible by the three generators at Elrama, when the new generator is completed, but only under hazardous conditions and with a sharp increase in the loss energy through transmission. However, much of the energy thus transmissible to Dravosburg and needed in the Woodville area cannot be carried, under various operating

conditions, over the transmission lines between the Dravosburg substation and the Woodville substation, in which area the situation is most critical.

From an engineering standpoint, it is impossible to string additional wires on the towers carrying the lines from Dravosburg to Woodville. A new tower line would have to be constructed. Further, those towers are located in thickly populated areas, thus making the cost of acquiring the necessary additional easements and rights of way prohibitive. And even if it were possible to string additional wires on the towers along the line, all of the existing lines would be out of commission while the work was being done.

If the transmission lines from Elrama to Dravosburg should be destroyed or rendered inoperative by espionage or catastrophe, all of the energy producible at Elrama would be unavailable to the system. This is a reason for building the proposed transmission line in addition to making the energy producible at Elrama fully available to the system.

This proceeding raises four questions:

- (1) Are the individual defendants properly joined as parties with Upper St. Clair township?
- (2) Has a first-class township the authority to regulate a public utility company by zoning ordinance?
- (3) Is the rule requiring exhaustion of administrative remedies applicable to the instant case?
- (4) Is equity the proper forum? We shall consider these questions in the order stated.

(1)

Are the individual defendants properly joined as parties with Upper St. Clair township?

[1] It is true that Rule 2102(b) of the Pennsylvania Rules of Civil Procedure provides that "An action shall be brought by or against a political subdivision in its name." This, however, does not prevent a joinder in this case of the individual defendants who are officials of the township.

Pennsylvania Rules of Civil Procedure #1501 provides that, "Except as otherwise provided in this chapter, the procedure in an action in equity shall be in accordance with the rules relating to the action of assumpsit." The rules committee note to that rule states that, ". . . the following rules apply to all actions at law and in equity. . . . Joinder of Parties, Rules 2226 to 2250."

Pennsylvania Rules of Civil Procedure #2229(b) provides that "A plaintiff may join as defendants persons against whom he asserts any right to relief jointly, severally, separately, or in the alternative, in respect of or arising out of the same transaction, occurrence, or series of transactions or occurrences if any common question of law or fact affecting the liabilities of all such persons will arise in the action."

Thus, to bring a case within the permissive joinder rule, there must be (1) an asserted right to relief against several defendants, (2) arising out of the same occurrence, (3) which produces a common question of law or fact affecting the liabilities of all those joined.

Here, Duquesne has asserted a right to relief against all those joined. The asserted right arises out of the attempted application of Upper St. Clair's zoning ordinance to the construction by Duquesne of a transmission line. There is a common question of law as respects those joined as defendants. And the resolution of that common question of law will determine Duquesne's right to have the defendants enjoined from so applying the ordinance.

Hence, all the elements necessary for a permissive joinder are present.

Furthermore, well-known students of Pennsylvania practice say that the new Pennsylvania Procedural Rules relating to actions in equity do not affect a change in the prior practice respecting joinder in equity. And the prior practice was to join the officials of a municipal corporation with it. Finally, courts in other jurisdictions which have specifically considered the joinder problem have held that officers of a municipal corporation may be joined with the corporation in a suit in equity. It is our opinion that the individual defendants are here properly joined as parties with the town-Amram and Schulman, The ship. New Pennsylvania Equity Rules (1952) 100 U Pa Law Rev 1089; 10 Anderson, Pa Civil Practice 324, 369-371 (1954); Harris v. Philadelphia (1930) 299 Pa 473, 475, 482, 149 Atl 722; Simms v. Erie (1949) 68 D & C 341; Brice v. Dallas (Tex Civ App 1927) 300 SW 970, 971; State Board of Health v. St. Johnsbury (1909) 82 Vt 276, 73 Atl 581, 582.

(2)

Has a first-class township the authority to regulate a public utility company by zoning ordinance?

[2-5] In the answer to this question lies the determination of this suit. This strikes at the heart of the matter. The Duquesne Light Company is a public utility and, as such, it may exercise the right of eminent domain. Its activities are directed and controlled by the Public Utility Code. The legislature has committed the regulation of utilities to the public utility commis-The public utility commission alone has general administrative power over and authority to supervise and regulate all public utilities doing business in the commonwealth. Whether the right of eminent domain shall be exercised, whether the services of a public utility are adequate, whether its services shall be extended are questions to be determined by the commission. The public utility is required by law to maintain adequate, efficient, safe, and reasonable service and facilities. It must make all repairs, changes, alterations, substitutions, additions, and improvements in the service that are necessary to serve its customers and to protect adequately the operation of the system, but such service must be in conformity with the orders and regulations of the public utility commission. No court nor township has jurisdiction to determine these matters. This is the sole responsibility of the commission.

Article II, § 1, of the Public Service Company Law of 1913 provided in part that "It shall be the duty of every public service company . . . to furnish and maintain such service,

PENNSYLVANIA COURT OF COMMON PLEAS

including facilities, as shall in all respects be just, reasonably adequate, and practically sufficient for the accommodation and safety of its patrons, employees, and the public, and in conformity with such reasonable regulations or orders as may be made by the commission." Article V, § 2, of the same law provided in effect that if the public service commission should find the service or facilities of any public utility to be inadequate, the commission should specify what facilities or service should be furnished, and direct the acquisition or rendition of the same.

Section 401 of the present Public Utility Code of 1937 (66 PS 1171), which replaced the Public Service Company Law of 1913, provides that "Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employes, and the public."

Section 901 of the code proclaims that "The commission shall have general administrative power and authority to supervise and regulate all public utilities doing business within this commonwealth." (66 PS 1341.)

Section 413 of the code requires that if the commission finds the service or facilities of any public utility to be "unreasonable, unsafe, inadequate, insufficient, or unreasonably discriminatory, . . . the commission shall determine and prescribe, by regulation or order, the reasonable, safe, adequate, sufficient, service or

facilities to be observed, furnished, enforced, or employed, including all such repairs, changes, alterations, extensions, substitutions, or improvements in facilities as shall be reasonably necessary and proper for the safety, accommodation, and convenience of the public, and shall fix the same by its order or regulation." (66 PS 1183.)

The Public Utility Code also imposes a fine of \$50 for each day that a public utility fails to perform its statutory duties (66 PS 1491), and imposes criminal penalties upon any corporation or person failing or refusing to comply with any order of the commission. (66 PS 1492.)

Finally, the act which created the public utility commission imposes upon it a duty to administer and enforce the Code. (66 PS 462(a).)

The First Class Township Law upon Which Upper St. Clair Relies Provides That It Shall Not Modify the Public Utility Code

In 1931, six years before the enactment of the code and while the Public Service Company Law of 1913 was in effect, the general assembly enacted the existing First Class Township Law. Section 3101 of the latter statute granted general zoning power to first-class townships (53 PS 19092-3101), but, significantly, § 3502, as initially enacted (53 PS 19092-3502), expressly provided that the act should "not repeal or modify any of the provisions of the Public Service Company Law" of 1913.

In 1949, § 3502 of the First Class Township Law of 1931 was amended to provide that the statute was not to "repeal or modify any of the provi-

DUQUESNE LIGHT CO. v. UPPER ST. CLAIR

sions of the Public Utility Law" of 1937 (53 PS 19092-3502).

Thus, long before first-class townships ever acquired any zoning powers, the general assembly had clearly expressed the policy of the commonwealth to commit the regulation of public utilities to a commission of statewide jurisdiction, and to impose a duty upon utilities to render adequate and efficient service and to make such changes in or extension of their facilities and service as might be necessary to accommodate or serve the public.

That policy remains deeply embedded in the present Public Utility Code and is the law of Pennsylvania.

The First Class Township Law Does
Not Expressly or Impliedly Grant
Such Zoning Power with Respect
to Uses and Structures, Other
Than Buildings, of a
Utility Company

The First Class Township Law does not *expressly* confer power upon townships to regulate public utilities by zoning ordinance, with respect to uses and structures, other than buildings.

Nevertheless, Upper St. Clair argues that the First Class Township Law *impliedly* confers power upon townships to regulate public utilities with respect to uses and structures. It relies upon § 3110 of the law. That section provides (53 PS 19092–3110):

"This article (i.e., the article conferring zoning power upon first-class townships) shall not apply to any existing or proposed building, or extension thereof, used or to be used by public service corporations, if, upon

petition of the corporation, the public utility commission shall, after a public hearing, decide that the present or proposed situation of the building in question is reasonably necessary for the convenience or welfare of the public."

Upper St. Clair points out that § 3110 does not mention uses or structures, such as a transmission line. It argues that since buildings alone are exempted, under certain conditions, from the general power to zone, the *inference* is that uses and structures other than buildings are subject to that power. With this contention we do not agree.

Further, the statute expressly and unequivocally declares that a township shall not modify the Public Utility Code. Now, if a first-class township by zoning ordinance can exclude a utility entirely from within its borders, or can dictate where structures of the utility shall be erected or how they may be used, it then most certainly is enabled to (1) regulate the utility, and (2) make it impossible for the utility to perform its statutory duty of rendering adequate and efficient service.

Thus, if the zoning article of the First Class Township Law were construed as Upper St. Clair would have it construed, that construction would modify the code in these respects: (1) First-class townships, together with the commission, and not the commission alone, would regulate public utility companies; and (2) public utility companies would render adequate and efficient service unless they were prevented from doing so by zoning ordinances of first-class townships.

Section 3110 merely grants an express power (not contained at all in the section granting general zoning power) to zone with respect to buildings of a public utility company, subject to a determination by the commission that the present or proposed location of such buildings is not reasonably necessary for the convenience or welfare of the public.

This construction in no way modifies the code, for it can be seen that the commission—the regulatory body under the code—is entrusted with the vital determination of necessity.

We therefore conclude that the policy of the commonwealth in entrusting to the commission the regulation and supervision of public utilities has excluded townships from the same field, and that no power in townships to enter that area can be read into the First Class Township Law by implication. Unless the legislature has given an express grant of power to townships, the commonwealth's own expressed policy on the subject is undiminished and supreme.

We have been unable to find any case in Pennsylvania involving the question of whether a political subdivision can regulate a public utility company by a zoning ordinance. The instant case seems to be one of first impression. We know of no instance in Pennsylvania where local authorities have contended that the uses and structures of a public utility could be controlled by the application of a local zoning ordinance. Counsel for the plaintiff has cited two cases in other jurisdictions which affirm the basic principle that, in event of a conflict between a local zoning law and a statute, the zoning law must give way.

See Jewish Consumptive's Relief Society v. Woodbury (1930) 230 App Div 228, 243 NYS 686, aff'd (1931) 256 NY 619, 177 NE 165, and Jennings v. Connecticut Light & P. Co. (1954) — Conn —, 103 A2d 535.

In the absence of a clear expression of intent on the part of the legislature to authorize a municipal subdivision by zoning ordinance to regulate a public utility, no such power can be implied. The Public Utility Code demonstrates without question that the legislature of the commonwealth of Pennsylvania has therein expressed its policy to commit the regulation of utilities to the public utility commission and to impose a duty upon utilities to render efficient service.

It is clear that the proposed transmission line is necessary for the rendition of efficient service to the public and that that necessity transcends the legitimate objectives of any one of the political subdivisions of the commonwealth.

We believe that this is the reason why the general assembly entrusted the regulation of public utilities to a commission of statewide jurisdiction. Local authorities not only are illequipped to comprehend the needs of the public beyond their jurisdiction, but, and equally important, those authorities, if they had the power to regulate, necessarily would exercise that power with an eye toward the local situation and not with the best interests of the public at large as the point of reference.

We believe that the general assembly never intended to bestow a power upon first-class townships which is in headlong conflict with the power already given the public utility commission. We believe that the general assembly never gave any one of the political subdivisions through which the proposed line will pass the power to determine whether the public in another locality shall be served with electric energy, or the means by which they shall be served. It is our conclusion that the Zoning Law of Upper St. Clair township is invalid and void as applied to Duquesne Light Company.

(3)

Is the rule requiring exhaustion of administrative remedies applicable to the instant case?

[6] The discussion of the previous legal principle requires a negative answer to this question. If a firstclass township by zoning ordinance cannot regulate or control a public utility and if the zoning ordinance is invalid and void when used to prohibit a public utility from constructing a transmission line across its territory, then it is absurd to argue that the utility must exhaust remedies set up in the ordinance. We concede that it is a general rule that "no one is entitled to judicial relief for a supposed or threatened injury until the prescribed administrative remedy has been exhausted." Act of 1806 - 46 PS Myers v. Bethlehem Ship-§ 156. building Corp. (1938) 303 US 41, 50, 51, 82 L ed 638, 58 S Ct 459. See e.g., Lukens v. Ridley Township Zoning Board (1951) 367 Pa 608, 80 A2d 765; Commonwealth v. De-Baldo (1951) 169 Pa Super Ct 363, 82 A2d 578.

To apply this doctrine in the instant case would be inconsistent. Further-

more, the Pennsylvania supreme court has refused to apply the exhaustion doctrine where pursuit of the administrative remedy would cause irreparable harm, as in the instant case. Wood v. Goldvarg (1950) 365 Pa 92, 74 A2d 100.

(4)

Is equity the proper forum?

[7] The evidence in this case is undisputed that unless construction of the transmission line is resumed by March 15, 1954, Duquesne will be unable to complete it by September 1, 1954, the day on which the third generator at Elrama is expected to be completed. There is likewise uncontradicted evidence that if the transmission line is not completed by September 1, 1954, Duquesne will be forced under certain conditions to use less efficient equipment or to curtail service to its customers at a cost or loss to it of from \$150 per day to \$300 per This in our judgment would constitute irreparable damage, damage justifying resort to equity.

Clearly, the individual defendants have no authority to apply the zoning ordinance to the construction and use of the proposed transmission line. Just as clearly, Upper St. Clair will not be pecuniarily liable for their tort in so doing. The individual defendants probably would be liable for damages due to their tort, but they have not denied the allegation in the complaint that they are so financially situated as to be unable to respond for the loss Duquesne will suffer if they have their way, unchecked by this court. This reinforces the need to apply to equity for relief. Equity alone can issue the injunction sought, which is plaintiff's

only adequate remedy. 18 McQuillan, Municipal Corporations §§ 53.64, 53.65 (3d ed. 1950). Prosser, Torts, 1078 (1941).

Upper St Clair contends that the bill should be dismissed on the purely procedural ground that equity will not enjoin the enforcement of an ordinance containing a criminal penalty for its violation "unless the plaintiff is subjected to the imposition of cumulative, exorbitant, and oppressive penalties pending judicial determination of the constitutionality of the statute." It cites Adams v. New Kensington (1947) 357 Pa 557, 55 A2d 392, as fully supporting that limitation.

There are thirty properties in Upper St. Clair which will be used in the construction and maintenance of the transmission line in that township. The ordinance imposes a fine of \$100 per day for each day that work is performed in violation of the ordinance. Thus, it is entirely possible that since Upper St. Clair already has served two notices respecting the Free and Becker properties, it would take the position that if Duquesne worked on all thirty of the properties in any one day, in violation of the ordinance, there would be thirty violations and hence a fine of \$3,000 per day. That penalty would swell at the rate of \$3,-000 for each day that Duquesne continues with the construction and maintenance of the transmission line, while waiting for Upper St. Clair's administrative machinery to grind out an appealable order, or for a test case on the criminal side to run its course.

We are of the opinion that irreparable injury is an *alternative* ground for staying a prosecution under an ordinance containing penalties for its 3 PUR 3d

violation: "But equity does have jurisdiction to enjoin such a prosecution where it is alleged not only that the statute or ordinance is unconstitutional and void but that its enforcement would cause the plaintiff irreparable loss to his property, either by effecting, if not a total suppression of his business, at least a grave interference therewith, or by subjecting him to the imposition of cumulative, exorbitant, and oppressive penalties pending judicial determination of the validity of the legislation." Adams v. New Kensington, supra, 357 Pa at pp. 560, 561 (emphasis added). See, also, to the same effect, Meadville Park Theatre Corp. v. Mook (1940) 337 Pa 21, 29, 10 A2d 437; Long v. Metzger (1930) 301 Pa 449, 454, 152 Atl 572.

It is our conclusion that equity is the proper forum.

Conclusions of Law

- (1) A first-class township has no power to regulate a public utility by zoning ordinance.
- (2) The zoning ordinance of Upper St. Clair township is illegal and void as applied to Duquesne Light Company.
- (3) The Public Utility Code confers upon the public utility commission general administrative power and authority to supervise and regulate all public utilities doing business in this commonwealth.
- (4) The First Class Township Law on which Upper St. Clair relies provides that it shall not modify the Public Utility Code.
- (5) In event of a conflict between the exercise of the right of eminent domain by a public utility and the

DUQUESNE LIGHT CO. v. UPPER ST. CLAIR

application of the provisions of a zoning ordinance of a first-class township, the latter must yield.

(6) The rule requiring exhaustion of administrative remedies has no application to the instant case.

(7) By presently prohibiting the Duquesne Light Company from working on the construction of its transmission line across Upper St. Clair township, the township has endangered the completion of the transmission line by September 1, 1954, with the result that Duquesne, under certain conditions, will be forced to use less efficient equipment or curtail service to its customers at a cost or loss to it of around \$150 per day or \$300 per hour. This constitutes irreparable damage.

(8) Equity has jurisdiction.

Decree Nisi

And now, to wit, this 25th day of March, 1954, the plaintiff having presented its bill in equity seeking a preliminary injunction against the defendants and hearing having been held and it appearing to the court that immediate and irreparable loss or damage will result to the plaintiff before the matter can be heard finally if this injunction

is not issued, it is hereby ordered, adjudged, and decreed that an injunction issue, preliminary until final hearing, restraining the defendants and each of them from prosecuting and threatening to prosecute by legal proceedings of any kind, the plaintiff, its employees and contractors, for alleged violations of the zoning ordinance of Upper St. Clair township arising out of the construction by plaintiff of a transmission line through and over properties in said township; and further restraining said defendants and each of them from interfering with, obstructing, or delaying in any manner or by any means, the construction of the aforesaid transmission line on, over, and above properties in said township.

This order and injunction shall be effective upon the filing of plaintiff's bond in the sum of \$10,000 with surety approved by the court in the manner and form required by law.

This injunction shall continue in full force and effect until final hearing in this court.

Costs shall be paid by Duquesne Light Company, plaintiff, and township of Upper St. Clair, defendant, in equal amount.

NEW YORK PUBLIC SERVICE COMMISSION

NEW YORK PUBLIC SERVICE COMMISSION

Re Residential Submetering of Gas and Electricity

Parties: Niagara Mohawk Power Corporation, New York State Electric & Gas Corporation, Republic Light, Heat & Power Company, Inc., Rockland Light & Power Company, Brooklyn Borough Gas Company, Consolidated Edison Company of New York, Inc., New York & Richmond Gas Company, Central Hudson Gas & Electric Corporation, Pabst Electric Company

> Case 16066 March 22, 1954

NOMMISSION investigation of residential submetering of gas and electricity; submetering prohibited.

Service, § 170 — Prohibition of submetering — Gas and electric service.

Residential submetering by gas and electric companies was prohibited on the ground that the practice serves no useful purpose, brings with it certain inherent detriment to the consuming public, and is contrary to the public interest.

Service, § 170 — Prohibition of submetering — Municipal housing authorities. Statement that there is no valid reason for treating municipal housing au-

thorities under a different rule than anyone else in prohibiting residential submetering by gas and electric companies, p. 61.

Rates, § 57 — Commission jurisdiction — Absence of contract.

Statement that a municipality and a utility are free to enter into a rate arrangement if they see fit, and that it is only in cases where they are unable to agree that the commission has power to fix the rates or conditions of service, p. 61.

Service, § 170 — Prohibition of submetering.

Statement that the commission, in prohibiting residential submetering by gas and electric companies, knows of no way under the statute whereby it can make a distinction or draw an order which will permit service to "good submeterers" and deny it to "bad submeterers," since the potential of evil is inherent in the practice, p. 62.

Lawrence APPEARANCES: Walsh, Counsel, and Joseph J. Doran, Acting Counsel (by John T. Ryan, Assistant Counsel), for the Public Service Commission; Lauman Martin, General Counsel (by Harold H.

White, of Counsel), Syracuse, for Niagara Mohawk Power Corporation; Naylon, Foster, Shepard & Aronson (by John A. Farrell), New York, Attorneys, for New York State Electric and Gas Corporation; K. W. Has-

brouch, Ithaca, Assistant to Vice President, New York State Electric and Gas Corporation; Harry L. Rudolph, Buffalo, Superintendent, Rates and Contracts, Republic Light, Heat and Power Company, Inc.; Whitman, Ransom, Coulson & Goetz (by Arthur L. Webber), New York, Attorneys, for Rockland Light and Power Company, Brooklyn Borough Gas Company, Consolidated Edison Company of New York, Inc., New York and Richmond Gas Company; John R. Gardner, Poughkeepsie, Assistant Secretary, Central Hudson Gas and Electric Corporation; G. Ward Yeomans, Tupper Lake, Municipal Manager, Tupper Lake and village of Philadelphia; Kenefick, Bass, Letchworth, Baldy & Phillips (by John H. Hollands, of counsel), Buffalo, representing Republic Light, Heat and Power Company, Inc.; Howard F. Moore, Buffalo, Vice President, Republic Light, Heat & Power Company, Inc.; Major & Sintich (by Jack H. Hantman and A. Edward Major, of counsel), Attorneys, New York city, for Pabst Electric Company; Carroll H. Shaw, Consulting Engineer, New York, for F. W. Woolworth Company; Sidney Freshman, Rome, for Rome Housing Authority; John R. Hurley, Rome, Project Manager, for Rome Housing Authority; Daniel B. Myers, Utica, Counsel, for Municipal Housing Authority of the city of Utica; Harold R. Mullen, Utica, Secretary, Municipal Housing Authority; Francis E. Cornish, Assistant Corporation Counsel, Buffalo, for Buffalo Municipal Housing Authority; Samuel Blinkoff, Buffalo, Assistant Executive Director, for Buffalo Municipal Housing Authority; William G. Kennedy, Syracuse, Counsel, for Syracuse Housing Authority; also city of Syracuse.

Eddy, Commissioner: This proceeding was instituted to determine whether or not this commission should adopt a rule prohibiting residential submetering in the so-called upstate area by gas and electric companies. It is presently prohibited by order in Case 14279 (Re Consolidated Edison Co. July 25, 1951) in New York city. Following the decision in that case an appeal was taken and the position of the commission sustained by the courts ([Campo Corp. v. Feinberg (1952)] 279 App Div 302, 93 PUR NS 53, 110 NYS2d 250, affirmed (1952) 303 NY 995, 106 NE2d 70). Thereafter the commission requested all other companies in the state to introduce similar provisions in their respective tariffs (see letter of June 2, 1952). Substantially all of the companies and municipalities affected have complied with this request. Out of the total number of gas customers less than one per cent are served by companies within whose territory residential submetering is permitted. With the electric companies the percentage is approximately one-fourth of one per cent. Since the institution of this proceeding the number of submeterers has decreased.

Municipalities Permitting Residential Submetering

Of the municipalities serving electricity or gas only five have not prohibited residential submetering. The record does not disclose that actually there are any such customers except one in the city of Dunkirk. A resort association served by the village of

NEW YORK PUBLIC SERVICE COMMISSION

Tupper Lake is a potential customer. This will be discussed later.

> New York State Electric and Gas Corporation, Clinton County

This company permits submetering in two of its divisions. As a result of its recent acquisition of certain properties of the Eastern New York Power Company it serves the Republic Steel Company at Lyon Mountain, and it appears that that company has for a number of years been selling electricity to its employees and others living in the vicinity of the mines at Lyon Mountain. It would appear that this activity extends beyond submetering and that the company is actually engaged in the business of a public utility without franchise in violation of law. The testimony indicates that steps are being taken so that New York State Electric and Gas will take over the distribution lines of the Steel Company. The testimony indicates no legitimate reason for sales to Republic for resale even if that business could be conducted so that it was not in violation of law. A majority of customers pay 8 cents per kwh for the first 25 and 4 cents per kwh for the balance. Four customers pay a straight 11 cents per kwh, two a straight 2 cents, and two a straight 10 cents.

Brewster District

There is one quite substantial concern engaged in submetering within the New York State Electric's territory in the Brewster district. This is the Pabst Electric. The evidence indicates that although some complaints have been received, in general the service rendered is satisfactory. This

company strongly contests any regulation which would force it to sell its property and its attitude appears to be more inspired by the personal pride of its operator than the comparative number of dollars involved. The company buys its energy from New York State Electric and Gas and there seems to be no reason why the Pabst Company's customers could not be as efficiently served without the intervention of the middleman. The Pabst Company can, of course, if it desires to operate as an electric corporation, apply for an appropriate franchise.

Republic Light, Heat and Power Company, Inc.

Within the territory of this company are two membership organizations who submeter gas known as the Hanford Bay Association and Sunset Bay Association. In both cases Republic serves gas to a master meter and the associations distribute the gas to members of the association and others. The evidence indicates that the installations in both cases are grossly unsafe, that elementary precautions are not taken so that it is difficult to conjure up an excuse of any convenience or benefits permitting the continuance of the existing arrangement.

Village of Tupper Lake

A similar situation relating to the service of electricity to a similar organization existed at Tupper Lake at the time of the institution of the original hearings. The village originally objected to the proposed restriction stating that it desired to serve this association which has a number of summer camps at its property line, since the village did not want to as-

sume the responsibility for what it believed to be a dangerous condition of the wires within the organization's property. Since the initial hearing considerable sums of money, which are being contributed by the organization, have been spent to rehabilitate the plant on the property. At the last hearing the village was not represented. At the present time the arrangement appears to be that the village bills the customers direct and no submetering is involved.

Municipal Housing Authorities

The Municipal Housing Authorities of the cities of Rome, Utica, Buffalo, and Syracuse objected to any prohibition against submetering. The situation of each is similar. Their purpose is to furnish housing to low-income groups. The usual lease provides for the use of a certain amount of electric current, varying during different periods of the year, the cost of which is included in the rent. If additional amounts of electricity are used a charge is made. If, however, the tenant uses less than the maximum provided for in his lease, he has no rebate in his rent.

The testimony given by the Housing Authorities is that in cases where they have not had check meters or where no charge has been made for the use of electricity beyond the minimum, there has been excessive use by the tenant. The arguments advanced for the continuance of submetering are purely economic: First, that the project was financed on the basis that the profit from the resale of electricity would be a material factor; and second, if the cost of electricity to the tenant is included in the rent, either

there will be an excessive use by the tenant or there must be a substantial increase in the rent. No other reason is advanced to justify its continuance.

From the tenant's standpoint we have a situation which we would not permit any utility to continue in its rate schedule, that is a situation where the minimum charge is so high (in this case concealed in the rent) that the prudent user of electricity pays for much more than he would use, and the landlord is fully compensated for any excessive use. We see no valid reason for treating Housing Authorities under a different rule than anyone else.

The evidence indicates that the Housing Authorities are served under contracts although those contracts call for the payment under the filed rate of the utility. Although none of the Housing Authorities raised the point, a municipality and a utility are free to enter into such an arrangement if they see fit; and it is only in cases where they are unable to agree that this commission has power to fix the rates or conditions of service.

Discussion

It would serve no useful purpose to repeat here the discussion of residential submetering set forth so fully in the opinion of Commissioner Mylott in Case 14279, pages 91–110. The reasons for its abolition are well stated there and repeated in the testimony of R. H. Nexsen, chief of the power bureau of the public service commission in this case.

In a period of about twenty years the commission received around 4,600 complaints in writing about such practices with a still greater number of

NEW YORK PUBLIC SERVICE COMMISSION

complaints being made by phone. These complaints covered many subjects—high bills, incorrect meters, and inability to receive the return of deposits. Frequently the right to submeter was not conducted by the landlord himself but was farmed out to someone else. Meters were used which would not be approved for use by a public utility.

Only in the territory of a minute minority of electric and gas customers is residential submetering still permitted. Except for the Housing Authorities, testimony was given only as to the existence of five submetering installations. As to the one in Dunkirk, there is no evidence in the record as to conditions under which it serves. As to the one in Westchester county, the evidence indicates that the standard of service does not presently require any remedial action by this commission. As to two on the shores of Lake Erie, the evidence establishes that the installations are inherently dangerous. As to the one in Clinton county, the rates charged are grossly discriminatory; and in addition, as to one potential customer in the Adirondacks, the customer's plant is unsafe.

It is argued strenuously by the representative of Pabst Electric that they should not be penalized simply because others engaged in the same business have failed to meet proper standards. We know of no way under the statute

where we can make a distinction or draw an order which will permit service to "good submeterers" and deny it to "bad submeterers." The potential of evil is inherent in the practice.

The evidence clearly indicates that residential submetering serves no useful purpose; that the practice brings with it certain inherent detriment to the consuming public, and that it is to the public interest to prohibit it throughout the state. We find no distinction in this case from our previous determination in Case 14279.

The practice of residential submetering has never taken root to any considerable extent in upstate areas. It has, however, continued for many years and persons engaged in the practice should have a reasonable opportunity either to dispose of the property used by them or, if the facts justify it, to apply for a franchise as an electric or gas corporation. Accordingly in territory where submetering exists tariff provisions preventing residential submetering should be made effective on January 1, 1955. As to all other companies which have not filed tariff provisions prohibiting residential submetering, such provisions should be filed upon statutory notice within thirty days after service of this order.

Conclusion

An appropriate order to this effect should be entered.

LERCH v. SINKING SPRING WATER CO.

PENNSYLVANIA PUBLIC UTILITY COMMISSION

George J. Lerch

7).

Sinking Spring Water Company, Inc.

Complaint Docket No. 16032 March 29, 1954

Complaint by water customer against minimum charge for first hundred cubic feet of water; dismissed.

Rates, § 603 - Water - Minimum charge.

1. A water company's minimum quarterly charge of \$5.70 net for the first hundred cubic feet of water was not considered excessive, unreasonable, or unwarranted, p. 63.

Rates, § 648 — Evidence — Minimum charge.

2. Testimony by a complainant against a water company's minimum quarterly charge for the first hundred cubic feet of water through a one-inch meter that the rate was a "service charge," disproportionate, ridiculous, and outrageous, was considered insufficient to carry the burden of proving the unreasonableness of the rate, p. 63.

Rates, § 185 — Reasonableness — Burden of proof.

3. A water customer who charges that a rate is disproportionate, ridiculous, and outrageous has the burden of proving the unreasonableness of the rate, p. 63.

By the Commission:

[1-3] Complainant, George J. Lerch, 70 Grandview boulevard, Wyomissing Hills, West Lawn, Pennsylvania, is a customer of Sinking Spring Water Company, respondent, and takes water service through a one-inch meter at respondent's metered rates, which became effective November 15, 1951. The quarterly rate for the first hundred cubic feet, or part thereof, through a one-inch meter is \$6, which is subject to 5 per cent discount for prompt payment, making the charge \$5.70 net. The complaint alleges that

this charge is excessive, unreasonable, and unwarranted. Complainant states that he has no complaint against any other parts of the metered rate schedule. The portions of that schedule affecting complainant are as follows:

Minimum q	Ratuarterly charge, including water \$6.0
100 011. 01	Per 10
	Cft.
Consumption terly co	charges (Excess of quar- nsumption over 100 cft.):
For next	900 cft \$0.3
For next	1,000 "
East mont	14,700 "
rornext	
For all ove	16,700 "

PENNSYLVANIA PUBLIC UTILITY COMMISSION

The tariff of respondent provides for quarterly minimum charges (including use of 100 cft.) on an increasing scale according to size of meter, and ranging from \$2.25 for a \frac{5}{8}-inch meter to \$150 for an 8-inch meter.

Bills rendered to complainant for water through a one-inch meter during the year 1953 were as follows:

January 1—
5,000 cft.—\$14.49 net (29¢ per 100 cft.)

April 1—
3,000 cft.— 12.21 net (41¢ per 100 cft.)

July 1—
3,600 cft.— 12.89 net (36¢ per 100 cft.)

October 1—
16,200 cft.— 27.26 net (17¢ per 100 cft.)

Total 27,800 cft.—\$66.85 net (21¢ per 100 cft.)

This complaint was filed on January 23, 1954. Hearing was held and concluded on February 25, 1954. Complainant testified that the \$6 minimum charge quarterly, for the first hundred

cubic feet of water through a oneinch meter, calling it a "service charge," is disproportionate, ridiculous, and outrageous. Otherwise. there is on this record no facts whatever upon which any determination can be made whether the minimum quarterly charge may or may not be a fair rate. However, it does not appear that this charge necessarily is improper in relation to the rate schedule as a whole. Being a large consumer, complainant has lower consumption charges, and it is evident that the minimum charge has little impact upon his total bills.

The burden of proof is upon complainant to show the unreasonableness of the charge and this burden has not been met by complainant; therefore,

It is *ordered*: That the complaint be and is hereby dismissed.

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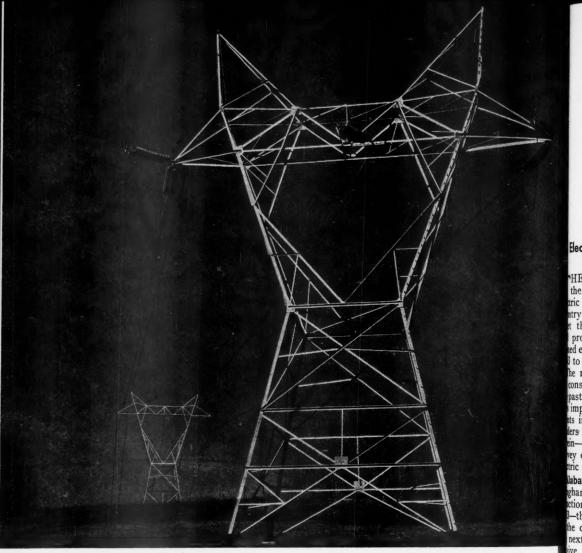
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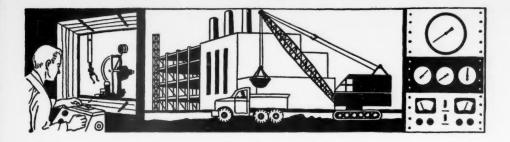
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construction purposes—both in past and planned for the future impressive. Based upon stateits in annual reports to stocklers for 1953, there is presented in-company by company-a vey of this important aspect of tric utility operations.

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labama Power Company (Birgham, Ala.) completed a con-tion program of \$44,000,000 in the greatest for any one year he company's history. During next three years 1954-1956, insive, the company's expansion gram will require an estimated 570,000, making a total of te than \$326,000,000 since 1941. merican Gas and Electric Comy (30 Church St., New York, Y.) and its seven subsidiaries oping in seven states have been end in a continuing program of exion. In 1953, expansion reached litime peak, with an expenditure \$137,398,000—the highest in the pany's 47-year history. It was the mination of an eight-year construcprogram that will cost an estied \$693,946,000 by the end of this The report states that the conion of this eight-year program will mean a halt to the expansion of ities, as projections for 1956 inte there may be need for one or e additional generating units and more transmission and distribufacilities to meet the expected requirements by the end of that year.

Arizona Public Service Company (Phoenix, Ariz.) has been conducting a long-range construction program, geared to keep pace with Arizona's rapidly expanding economy. Construction expenditures of \$21,200,000 during 1953 brought to \$87,000,000 the amount of money spent since 1945. The construction program during the next two years to provide new electric, gas and water facilities throughout the system will amount to \$48,000,000.

Arkansas-Missouri Power Company (Blytheville, Ark.) continued its program of strengthening its electric transmission and distribution systems. Major construction projects for 1953 amounted to \$1,100,000.

Arkansas Power & Light Company (Little Rock, Ark.) reports that 1953 was the greatest year for construction and expansion in the company's 40 years of operation. Reaching a peak in the building of new generating units and related facilities, the company invested \$41,829,245 during the year. More than \$100,000,-000 has been spent on new construction in the period 1950-1954. The budget for 1954 has been set at approximately \$25,000,000.

Atlantic City Electric Company (Atlantic City, N. J.) is continuing its construction program with \$12,-783,000 being expended on new plant facilities during 1953. The construction program in 1954 calls for the expenditure of about \$15,300,000. The postwar construction program which was completed in 1952, a seven year period, will be equaled or exceeded by the company's new three-year program which will be completed by the end of 1955.

Boston Edison Company (Boston, Mass.) reports that construction expenditures for 1953 amounted to approximately \$22,600,000. The largest project under construction is

generating unit No. 6 at Edgar station, which is scheduled to go into operation in the summer of 1954.

California Electric Power Company (Riverside, Cal.) spent \$10,-050,800 on electric construction during 1953, an increase of 9.6 per cent over 1952. Work on unit No. 3 at Highgrove steam plant accounted for about half of the total amount.

The California Oregon Power Company (Medford, Ore.) made gross capital expenditures during 1953 for additions and improvements to electric property, plant and equipment amounting to \$18,929,560. It is estimated that additions will total approximately \$10,000,000 in 1954.

California-Pacific Utilities Company (San Francisco, Cal.) expended \$1,790,000 for new construction in 1953, of which \$1,505,000 was for expansion of plant capacity; \$226,-000 for replacements and improvements; and \$59,000 for the reduction of operating costs. The construction budget for 1954 is \$2,560,000.

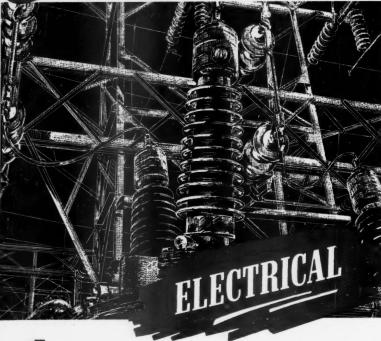
Carolina Power & Light Company (Raleigh, N. C.) made expenditures for construction during 1953 amounting to \$17,361,000. Approximately \$6,000,000 of this amount was spent on construction of the new plant now being built near Wilmington, N. C. Estimated construction expenditures for 1954 aggregate \$25,-650,000. A large part of this amount will be spent at the new Wilmington steam generating plant, with the remainder being used for facilities to supply the increased requirements of present and new customers.

Central Hudson Gas and Electric Corp. (Poughkeepsie, N. Y.) reports that, during the years 1945-1954, it will have spent a total of approximately \$69,000,000 to expand its facilities, the largest construction program in its history. In

(Continued on page 44)

1954-PUBLIC UTILITIES FORTNIGHTLY

OF THE ENGINEERING SERVICES OFFERED BY **GILBERT ASSOCIATES, INC.**



Electrical transmission, distribution and substation projects are integrated phases necessary to the completion and ultimate operation of many GAI engineered and designed projects. Expert technical specialists in the electrical field are part of the GAI staff of engineers. Their "know-how" contributed to that of GAI general engineering staff assures the best possible solution to each problem.

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INDUSTRIAL PROGRESS (Continued)

1951, Central Hudson put operation the first 60,000 kw u its Danskammer Point steam tion. The completion of a se 60,000 kw unit at the Danskar Point site is scheduled for 19

Central Illinois Electric and Company (Rockford, Ill.) spen proximately \$3,300,000 in 195 construction. The largest portion this amount was made up of add and betterments to the system. struction was started on a new 3 kw turbine generator addition Sabrooke station. Total estin construction for 1954 amounts to 316,000.

Central Illinois Light Com The (Peoria, Ill.) expended a total of Cod 472,005 in 1953 for construction other improvements. Of this arm ne \$3,202,534 was for electric factorial Louisiana Electric (Sio Central Louisiana Electric (Sio Canada and Canada and

pany, Inc. (Alexandria, La Jutio pany, Inc. (Mexandria, La, putter ports that construction expend state for the year 1953 aggregated \$5 ion 224. Of this amount, \$5,041,665 year for electric facilities. The computation budget for the year food to the year food agreement of \$250,000 of which the year food \$250,000 of amounts to \$4,850,000, of which cips 000,000 is for the electric depart 1 tot Central Maine Power Com column

(Augusta, Me.) spent \$14,61 ctri for new construction and replace io) in 1953. The principal item in this plan gram was the work on the new 75 econ kilowatt hydro development 14 co Indian Pond on the upper Ken wem river. Projects for additional ger ing capacity are now under come tion or in the planning stage.

Central Power and Light pany (Corpus Christi, Texas) set \$21,576,017 in 1953 for new facting The largest expenditure, \$7,75 it went into new distributions. It is anticipated that the expa program will amount to \$24,80 in 1954.

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Central and South West Cor iod 1 tion (Wilmington, Del.) re that its subsidiary companies wer tral Power and Light Company, ie ad lic Service Company of Okla Southwestern Gas and Electric n \$20 that its subsidiary companies Southwestern Gas and Electric pany, and West Texas Utilities pany, and West Texas Utilities the C pany) continued their construction programs at a high level during struct high struct with additions to plant exceeding 000,000. Building will continue in 1954—the total budget being mated at approximately \$60,00 The system's building program 1953, 1954 and 1955 will result penditures of approximately 000,000.

Central Vermont Public S (Continued on page 45)

PUBLIC UTILITIES FORTNIGHTLY-JUNE 16

DUSTRIAL PROGRESS ontinued)

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on put rporation (Rutland, Vt.) made 100 kw u fitions, replacements and improvent steam ats to the company's properties of a sealing \$2,816,000 during 1953. The Danskan \$4 construction program is estidiously for the construction program is estidiously for the construction for the construction for the construction for the construction expenditures that construction expenditures the portion of the year totaled \$23,068,252,

set portioning the year totaled \$23,068,252, up of addituding about \$9,600,000 for the system. After C. Beckjord station. For the a new 3 r 1954, total construction expenditudition that estimated at \$31,000,000 intended the system. The same of the system of the system

the Company (Cleveland, Ohio) restruction is that \$43,721,000 was expended
f this are new construction in 1953. Onectric fact of of this total was devoted to exlectric priors of its transmission and disria, La. Lution facilities. Seven distribution expend stations and one transmission subgated \$5 ion were placed in service during 5,041,660 year. The company's gross conhection expenditures for the postwar he compaction expenditures for the postwar the year jod now total \$210,000,000. It is of which icipated that expenditures in 1954 ic depart | total \$28,000,000.

t \$14,61 ectric Company (Columbus, d replace io) spent \$17,212,000 during 1953 em in this plant additions and improvements.
ne new 75 construction program for the year opment 4 contemplates additions and imper Ken wements estimated to cost \$23,100,-

nder commonwealth Edison Company licago, Ill.) and subsidiary com-Light is report that postwar expenditions is through 1953 for electric gennew facting plant totaled \$272,900,000. In e, \$7,75 lition, \$363,900,000 was spent for tion factor electric facilities, principally smission and distribution. Present mates call for electric construction and interest of \$24,80 mates and for electric construction and interest of \$24,80 mates call for electric construction and interest of \$24,80 mates call for electric construction and interest of \$24,80 mates call for electric construction and interest of \$24,80 mates call for electric construction and interest of \$24,80 mates call for electric construction and interest of \$24,80 mates call for electric construction and interest of \$24,80 materials and interest of \$24,80 materi Vest Cor iod 1954 through 1957.

he Connecticut Light and wer Company (Berlin, Conn.) de additions and improvements to perty in 1953 amounting to more \$20,400,000.

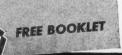
Utilities The Connecticut Power Company constructional conn.) reports that its struction program has continued high level. The company's current struction budget, which covers pleting work now in progress, as as new work, amounts to \$7,700,-Of this, about \$3,750,000 will be nt on electric distribution facilities. Onsolidated Edison Company New York, Inc. (4 Irving Pl. V York, N. Y.) made construction ablic Se (Continued on page 46)



- * Provides high-quality telephone service into and from noisy areas without sound-proof booths.
 - * Operated and connected like conventional telephone.
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 - * Adjustable transmitter and receiver signal level.
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Designed for wall or column mounting, this model can be used in many noisy locations where a sound-proof booth is not only undesirable but impractical. For example, when equipped with retractile cord (illustrated) and installed on Boiler Control panel, operator's freedom of action and effectiveness are increased greatly.

MODEL 100

Combining all of the GAI-PHONE'S operational features with modern, streamline design makes this model ideal for desk or table top installation.



WRITE

expenditures in 1953 amounting to \$88,000,000. Of this sum, \$81,000,-000 was spent for electric construction \$43,000,000 for transmission and distribution and \$38,000,000 for production. Expenditures of \$90,000,000 are budgeted for 1954, and for the five-year period 1954-1958 are forecast at \$375,000,000.

Consolidated Gas Electric Light and Power Company of Baltimore (Baltimore, Md.) spent \$30,872,000 during 1953 for additions to and replacements of electric, gas and steam properties. Of this total, \$24,334,000 was expended for electric plant. The growing demands for electricity and gas will require the continuance of the company's construction program at a figure close to that of the year just

Consumers Power Company (Jackson, Mich.) reports that last year's expenditures for new facilities were the largest in the company's history. Costing more than \$56,000,000, it brought the postwar total of additions to plant to more than \$342,000,-000. Included in the 1953 program was the completion of the new Whit-Work was continued throughout the year on an addition to the John C. Weadock plant and a fourth unit was started at the B. C. Cobb station. All indications point to the necessity of continuing new construction at a high rate during 1954.

The Dayton Power and Light Company (Dayton, Ohio) has completed an expansion program that cost over \$126,000,000 in the last eight years. The company's efforts to meet the postwar expansion requirements were climaxed in 1953 by the completion of the O. H. Hutchings generating station. Three electric projects were announced for 1954. They include new substations for Marysville and Greenville and a new additional transmission line from the Hutchings station to the Beaver substation.

Delaware Power & Light Company (Wilmington, Del.) continued its construction activities at a high level during the year. Total expenditures amounted to \$11,612,667 of which \$5,571,867 was spent on the third electric generating unit now under construction at the company's Edge Moor generating station.

The Detroit Edison Company (Detroit, Mich.) has been engaged in

an extensive expansion program, first two units (150,000kw each) their new St. Clair power plant uplaced in service in 1953. Two munits of the same size are scheduled the same siz to go into operation in 1954. Constr tion was also started in 1953 on River Rouge plant. Initial constr tion for this plant provides for 260,000 kw units. The construct program for 1954 is presently mated at \$73,000,000.

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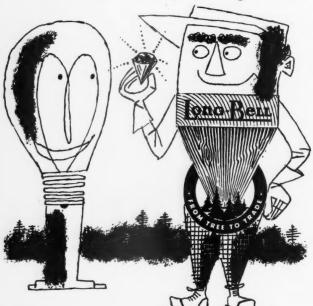
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lotte, N. C.) spent about \$231,0 m wi Duke Power Company (Ch 000 on plant additions in the discovered by the years 1946-53. About \$47,000,000 ult spent in 1953. A new 250,000-kwg experating unit was put into service the fall of 1953, while two units gregating 266,000 kw, are schedied with the for completion this year and a 1500 kw unit is under construction for in 1955.

Duquesne Light Company (Pi burgh, Pa.) reports that construct expenditures this year should proximate \$32,000,000. The a pany's construction program in 19 proximate \$32,000,000. The a erator pany's construction program in 19 involved an expenditure of \$34,20 vemb 000. This brings the expenditure of \$34,000 vemb of \$34,000 vemb

(Continued on page 47)

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FOUR YEARS BEFORE EDISON AN-NOUNCED perfection of the first incandercent lamp Long-Bell began serving the lumber needs of America. And, in 1950, on our Diamond Jubilee Anniversary, Long-Bell had been supplying creosoted poles to the electrical industry for more than a third of a century.

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PUBLIC UTILITIES FORTNIGHTLY-JUNE 10.

USTRIAL PROGRESS

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distribution to provide facilities new customers and increased by (the sand the 1954 construction pro\$231,0 n will be of a similar nature.

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690 on its construction program ing 1953 for new facilities. Conction was started in 1953 on the allation of a 30,000 kilowatt turboster at the Pio Granda power. ny (Pit erator at the Rio Grande power ion, which will be completed about vember, 1954, at a total estimated of \$5,300,000.

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UNE IO,

he Empire District Electric mpany (Joplin, Mo.) estimates during the years 1954-1956, it will necessary to spend approximately ,000,000 for additions and imvements to property. The company at \$4,099,262 for new construction 952; \$5,752,357 in 1953; and exts to spend over \$4,000,000 in

lorida Power Corporation (St. estantian Power Corporation (St. ersburg, Fla.) and subsidiary, orgia Power and Light Company, Valdosta, Georgia, invested more in \$27,000,000 in plant and line except the stanting 1953. It is planned to est approximately \$72,000,000 dur-the next three years in further ansion of power plants, transmislines and other facilities.

lorida Power & Light Company h Annimis Fla.) has spent a total of 8,017,000 on construction since 5, with \$32,243,000 being exded in 1953. Estimates for 1954 icate construction costs will example many d \$39,000,000.

beneral Public Utilities Corpora-n (67 Broad St. New York, N. in reporting for its system comlies operating in New Jersey and insylvania, stated that generating nu ts now under construction will ex-id the system's capability by mid-5 about 28 per cent over 1953. A al of about \$155,000,000 of new (Continued on page 48)

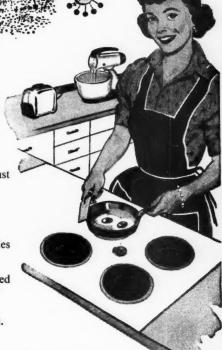


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INDUSTRIAL PROGRESS (Continued)

plant is expected to be added in 19 and 1955.

Georgia Power Company (lanta, Ga.) made construction penditures in 1953 approximat \$45,000,000. This brings to ne \$238,000,000 the amount the compans spent in the last eight years. Construction budget for 1954 calls for expenditure of an additional \$33,000 for increased generating capal and for additional substation, tramission, distribution and other facties.

Gulf Power Company (Pensac Fla.) reports that additions to g erating, transmission and distribut facilities have required expendits of more than \$30,009,000 during past three years. The company's c struction expenditures for the y 1954 are estimated at approxima \$3,500,000.

Gulf States Utilities Compi (Beaumont, Texas) made plant ditions during 1953 amounting \$26,150,088. The construction p gram for the three years 1954 thro 1956 is estimated to require \$55,01 000, of which \$17,000,000 will spent in 1954.

The Hartford Electric Li Company (Hartford, Conn.) ports that expenditures for additional facilities amounted to \$12,000,000 1953 and will be about \$10,000,000 1954.

Houston Lighting & Power Copany (Houston, Texas) estimates 1954 construction budget be approximately \$40,300,000. To construction expenditures during 1954-1959 six-year period are emated at \$175,000,000. Total gradditions to the company's plant count during the year 1953 amount to \$28,710,230.

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Idaho Power Company (Boldaho) made gross expenditures construction in 1953 amounting to 202,372, compared with a similar vestment in 1952 of \$7,813,917. Ding the year, the company built miles of high-voltage transmiss lines and 218 miles of distribut lines. Two new substations were stalled and 36 substations were proved and expanded.

Indianapolis Power and Li Company (Indianapolis, Ind.) a four-year construction programostring more than \$42,000,000. The will make a total of almost \$132,000 for enlarging and improving system in the period from 12 through 1957. Included in the

(Continued on page 50)

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symbol of service ...

focus of DP&L'S biggest year

The year 1953 marked the end of the most strenuous chapter in the history of The Dayton Power and Light Company. Eight years and over \$126,000,000 went into an expansion program that has placed this company's facilities in the best condition ever. Last year the emphasis returned to Service and Sales.

With the major expansion completed, the company moved into a period of normal operations and the return to new emphasis on the importance of fundamentals—highly trained personnel ready to provide the efficient service that inspires confidence, increased sales and greater earnings.

Annual Report Cites New Records— Solid Basis for Continued Progress

- Annual gross revenue for 1953 exceeded \$57,000,000
 Completion of the \$50,000,000 O. H. Hutchings generating station

 Temporarian Station

 **T
- Electric generating capacity reached a total of 580,000 kw
- Annual residential consumption for 1953 averaged 2,454 kwh
- 9004 new electric customers were added during 1953
 Total sale of natural gas reached 26,871,000 Mcf
 Annual residential consumption of natural gas averaged 131.7 Mcf
- 6879 new natural gas customers were added during 1953

We will be pleased to mail you a copy of our 1953 Annual Report on request



THE DAYTON POWER AND LIGHT COMPANY BALANCE SHEET

	December 31	
ASSETS	1953	1952
Property and plant	\$184,095,615	\$173,301,796
Current assets		15,825,309
Other assets		254,296
	\$199,081,454	\$189,381,401
LIABILITIES		
Capitalization	\$148,489,654	\$146,939,093
Current liabilities		14,081,520
Reserves	32,039,188	28,360,788
	\$199,081,454	\$189,381,401
RESULTS O	F OPERATIONS	
	1953	1952
REVENUE	\$ 57,500,942	\$ 52,956,777
EXPENSES		43,119,588
Gross income	\$ 9,587,136	\$ 9,837,189
INCOME DEDUCTIONS		1,561,747
Net income	\$ 7,758,715	\$ 8,275,442
PREFERRED DIVIDENDS		948,770
Earnings on common stock	\$ 6,809,945	\$ 7,326,672
Number of common shares out-		
standing at December 31	2,585,728	2,573,697
Earnings per common share	\$2.63	\$2.85
outstanding	\$2.03	\$2.00

THE DAYTON POWER AND LIGHT COMPANY



waterline

Construction Time Cut in Half

IN KALAMAZOO, MICH. a trench for 8" cast iron concretelined pipe was being dug in soft loose soil always in danger of caving in. Pipe was being laid at only half the possible speed of trenching—so excavating was slowed accordingly to minimize the risk of cave-ins.

The City Light and Water Utilities overcame this situation by putting a Cleveland Model 80-W on the job to handle and lay pipe. The one-man-operated 80-W not only performed all the pipe installation operations fast enough to permit full-time trenching but also performed the additional backfilling required by this job speed-up. Net result: construction time for the entire project was cut in half.

Write for descriptive literature and specifications or get the full story on CLEVELANDS from your local distributor.



INDUSTRIAL PROGRESS (Continued)

mediate program is a \$14,600,000 dition to the White River power plath is 105,000-kw generating usixth at that plant and largest in system, is scheduled for completion the end of 1955.

Interstate Power Compa

Interstate Power Compa (Dubuque, Iowa) made construct expenditures in 1953 amounting \$3,278,716. The 1954 construction penditures are estimated to be \$5,400. This construction program cludes the beginning of a 161,000 major grid transmission system the company.

Iowa Electric Light and Por Company (Cedar Rapids, Iow made constructed additions aggreging \$7,600,000 during 1953. major item of expenditure was \$1,200,000 required to complete 15,000 kw turbine generator and horessure boiler addition to the Bogenerating plant. In addition to tapproximately \$2,550,000 was sprogramment of the second tric plant at Marshalltown. Expenditure for 1954 and 1955 are estimated \$22,000,000. The largest single in the present program is the Marshalltown steam-electric geneing plant which will require \$9,50,000 to complete.

Iowa-Illinois Gas and Electompany (Davenport, Iowa) spatotal of \$9,662,000 during 1953 w \$5,699,000 being expended on electracilities. A total of \$10,176,000 budgeted for 1954, with \$7,148, earmarked for the electric departm

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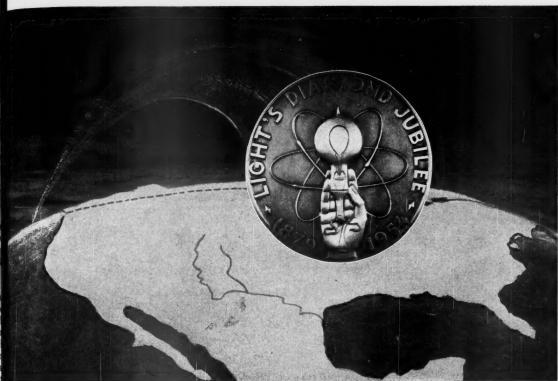
WA

Iowa Power and Light Compa (Des Moines, Iowa) reports that I was the greatest construction year the history of the company. Invenents made in new construction of ing the year totaled \$18,046,635, against a previous maximum of \$687,513.

Iowa Public Service Comp (Sioux City, Iowa) made expetures for property and plant addit in 1953 aggregating \$7,219,495. Etric property added amounted to 102,795, or 85 per cent of the Present plans indicate an expendit of approximately \$8,456,000 for provements and additions to prop during 1954.

Jersey Central Power & Li Company (Asbury Park, N. J.) of tinued its postwar expansion progat a record pace during 1953 with ditions amounting to \$17,648.52 compared with \$16,447,648 in 1 Total expenditures in the post period, 1946 through 1953, for plants and facilities to keep abr

(Continued on page 52)



THE BIGGEST EVENT OF THE YEAR!

Light's Diamond Jubilee is the biggest electrical industry event of 1954.

From Atlantic to Pacific, from Canada to Mexico, America's light and power companies are building celebrations in a thousand communities to mark 75 years of electrical progress and the promise of the electrical future. Manufacturers will support them with national advertising and promotion.

ARE YOU SET FOR ACTION?

The more vigorous your effort, the more you can use the Jubilee to bolster your public relations and to build your sales. Complete information about the Jubilee and materials to support your Jubilee activities is available. Get it . . . and use it!

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of electric power demand approximate \$62,000,000.

Kansas City Power & Light Company (Kansas City, Mo.) made property additions in 1953 totaling \$20,734,026, the major expenditures being for power production facilities. Construction expenditures for 1954 are estimated at \$21,500,000.

Kansas Gas and Electric Company (Wichita, Kan.) spent \$15,-003,428 on construction of new facilities during 1953 to meet the requirements for electric service for the present and for the immediate future. These 1953 expenditures were the largest ever spent in a single year by the company. It is estimated that expenditures for new facilities in 1954 will be approximately \$16,000,000.

The Kansas Power and Light Company (Topeka, Kan.) has invested \$87,000,000 in additions to property and plant since 1945, with nearly \$9,000,000 expended during 1953. Expansion expenditures for the electric department during 1953 totaled \$5,997,000. The construction budget for 1954 will approximate \$16,769,000, with \$13,221,000 for electric expansion.

Kentucky Utilities Company (Lexington, Ky.) reports that during 1953, additions to and replacements of plant totaled \$17,188,611, which consisted of expenditures of \$9,402,506 for generating facilities; \$3,537,940,794 for transmission facilities; \$3,940,794 for distribution facilities and improvements. Expenditures for additions, extensions and improvements to properties in 1954 are estimated at \$13,500,000.

Long Island Lighting Company (Mineola, N. Y.) reported expenditures of \$49,258,000 for new facilities in 1953. Such expenditures since the end of World War II have amounted to \$211,000,000—more than two-thirds of the company's total present investment in gas and electric property. Further construction costs this year are estimated at \$46,000,000.

Louisiana Power & Light Company (New Orleans, La.) invested \$14,553,807 in property additions during 1953. In the last five years the company has invested over \$57,000,000 in expanding and improving service.

Louisville Gas and Electric Com-

pany (Louisville, Ky.) spent \$ 323,000 for construction during 19 the largest amount spent for exp sion during any one year of the copany's existence. The projected pansion program for 1954-55 will quire expenditures of approximates \$35,500,000. Of this amount, \$ 700,000 is budgeted for 1954, \$ 16,800,000 for 1955.

Metropolitan Edison Compa (Reading, Pa.) made construct expenditures in 1953 exceeding \$ 000,000. It is estimated that appro mately \$17,000,000 will be spent construction purposes in 1954.

Michigan Gas and Electric Copany (Three Rivers, Mich.) repothat 1953 expenditures for plant ditions and replacements were \$000, of which \$571,000 was spent electric properties. The 1954 bud is estimated as \$1,220,000, with \$9000 earmarked for electric properties.

Middle South Utilities, Inc. Rector St., New York, N. Y.) reported that its subsidiary companies (kansas Power & Light Compa Louisiana Power & Light Compa Mississippi Power & Light Compa and New Orleans Public Service In made construction expenditures 1953 totaling \$88,000,000. The 19 building program included complet of 423,000 kilowatts of new genering capacity.

Minnesota Power and Li Company (Duluth, Minn.) report that the highlight of its 1953 constr tion program was the completion the new \$13,000,000 steam elect plant at Aurora. By the end of 19 approximately \$47,000,000 had b spent in post-World War II expans of facilities of the company and its sidiary, Superior Water, Light Power Company. Construction penditures for 1954 are estimated \$5,600,000 for the company and \$2 000 for its Superior subsidiary. largest projects in this year's progr are two 110,000-volt lines in the L Falls division and the new 110,0 volt line from Duluth to East Bea Bay.

Mississippi Power Compa (Gulfport, Miss.) reports that dur 1953 expenditures for electric of struction were \$5,876,247. Comparition of the second 40,000 kilowatts erating unit at plant Sweatt was major item in the construction gram. The company's construction penditures for 1954 are estimated \$4,024,000.

(Continued on page 54)

Electric Utilities and Natural Gas Companies

We have prepared comparative studies giving extensive data on 95 Electric Utilities and 30 Natural Gas Companies, with brief comments on the stocks of those we favor.

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Missouri Public Service Company (Warrensburg, Mo.) made expenditures for the construction of property additions during 1953 amounting to \$5,630,719. Nearly half of this amount was spent in connection with the installation of the 22,000 kw generating unit at the Ralph Green plant. The company's construction budget for 1954 totals \$3,737,900.

Montana-Dakota Utilities Company (Minneapolis, Minn.) made plant additions during 1953 totaling \$10,005,952, of which electric additions represented \$5,744,731. Besides distribution system extensions, substations and other facilities to meet load growth, three major electric additions were undertaken during the year. One was the 25,000 kw steam generating plant at Mandan; another the 8,000 kw gas turbine addition to its Williston plant; and the third, a 78-mile, 69 kilovolt-ampere transmission line. The construction budget for 1954 as tentatively approved totals \$11,400,000 of which \$6,457,000 is earmarked for electric properties. Major electric projects included in the 1954 budget are the completion of the Mandan and Williston power plants.

The Montana Power Company mated that about \$5,600,000 will (Butte, Mont.) is continuing its program of expanding and strengthening electric and gas facilities to meet the constantly-increasing requirements of its customers. It expects to spend approximately \$23,800,000 on construction projects in 1954.

Mountain States Power Company (Albany, Ore.) made additions and betterments to plant during the year 1953 totaling approximately \$5,762,-000, the largest annual expenditure of this type in the company's history. Since the start of 1946, almost \$36,-000,000 has been expended on the construction program, and a budget of \$4,500,000 has been projected for 1954.

New England Gas and Electric Association (Cambridge, Mass.) reports that its operating subsidiaries expended \$6,720,000 on construction in 1953. A long-range construction program anticipates the following approximate expenditures: \$9,500,000 in 1954; \$6,700,000 in 1955; \$6,100,-000 in 1956; and \$7,200,000 in 1957.

New Jersey Power & Light Company (Dover, N. J.) spent \$4,400,-000 in 1953 on construction. It is estispent in 1954.

Newport Electric Corporat (Newport, R. I.) invested \$917 on construction work during 19 More than half of this amount used for completion of construct in connection with a new 69,000 transmission line and substations. ditional construction is planned the immediate future.

New York State Electric & Corp. (Ithaca, N. Y.) plans construction expenditures of \$75,0 000 during the three years, through 1956. The expenditures raise the total construction prog for the 11 postwar years to more \$235,000,000. Expenditures for construction and for acquisition property totaled \$36,825,000 in 19

Niagara Mohawk Power Corration (Syracuse, N. Y.) spent at tal of \$78,085,000 on construction 1953, of which approximately 000,000 was for electric facilities 1953 the third of four 80,000 kw t at its Albany steam electric plant placed in service; an additional 000 kw unit was placed in service its Huntley station at Buffalo; work was continued on the first of hydro-electric plants on the Raqu river. Construction expenditures 1954 for electric facilities are mated at \$53,200,000.

Northern Indiana Public Ser Company (Hammond, Ind.) spend \$49,000,000 for expansion modernization during the next years. The company estimates \$22,500,000 will be spent for new struction in 1954 and the remai \$26,500,000 in 1955.

Northern States Power Comp (Minneapolis, Minn.) reports expenditures since the company gan work on its postwar const tion in 1947 totaled approxima \$226,743,000 by December 31,1 Expenditures for the next years, 1954-1957, presently are mated at \$179,800,000, including \$52,360,000 for 1954. New ele generating capacity of 40,000 was completed during 1953 brin the total generating capacity of system to 994,315 kw with a capability of 1,085,945 kw.

Northwestern Public Ser Company (Huron, S. D.) condu a \$1,193,988 program in 1953. struction in 1954 is budgeted at 500,000, of which \$1,000,000 is electric facilities.

Ohio Edison Company (Al (Continued on page 56)

This announcement is neither an offer to sell nor a solicitation of an offer to buy any of these Shares. The offer is made only by the Prospectus.

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Ohio) reports that the system is engaged in the heaviest construction program in its history. Expenditures in 1953 amounted to \$56,198,308 by Ohio Edison Company and \$2,812,696 by Pennsylvania Power Company. The total of \$59,011,004 brought expenditures for the eight-year period since World War II to approximately \$256,065,351.

The Ohio Power Company (Canton, Ohio) will invest approximately \$37,500,000 during 1954 to improve and enlarge facilities, The new budget includes funds to complete the new 400,000-kw Muskingum river plant; to start construction of a ultra-high pressure and temperature unit at the Philo plant; to improve coal-handling equipment at Philip Sporn plant; to enlarge and continue construction of a 330,000 volt transmission line across Ohio; and to erect many new transmission and distribution lines and substations.

Oklahoma Gas and Electric additional units aggregating 235,000 Company (Oklahoma City, Okla.) kw capacity were placed in service at expended \$12,066,000 for new construction during 1953. Construction 1953, bringing the capacity of this expenditures for 1954 are estimated plant to 575,000 kw. Completion of

to be \$19,800,000. The largest project will be the continuation of construction to double the capacity of the Mustang generating station, which presently is the largest power plant in the state.

Otter Tail Power Company (Fergus Falls, Minn.) has put more than \$16,000,000 into new plants both steam and internal combustion, and into transmission lines and distribution systems in the past four years. The total spent in 1953 was \$3,266,174, with \$1,691,917 for substations and transmission, \$1,021,817 for distribution system work, \$433,560 for plant construction and the remainder for general purposes.

Pacific Gas and Electric Company (San Francisco, Cal.) reports that expenditures for enlarging and expanding facilities in 1953 totaled \$197,000,000, bringing to \$1,174,000,000 the amount spent for this purpose since the close of World War II. Two additional units aggregating 235,000 kw capacity were placed in service at the Contra Costa steam plant during 1953, bringing the capacity of this plant to 575,000 kw. Completion of

these units brought the capacity of electric generating facilities built the company in the postwar period 1,921,400 kw. At the end of 1953 additional 984,000 kw was under tive construction. Approxima \$170,000,000 has been budgeted construction purposes in 1954.

Pacific Power & Light Comp (Portland, Ore.) reports that struction expenditures in 1953 struction expenditures in 1953 struction expenditures in 1953 struction world War II now totals \$880 000. The first of two 54,000 km erators at the company's Yale hy electric project went into regular eration in September, 1953, and second unit was placed on the lin November. The company estim that expenditures for additions improvements in 1954 will be appropriately \$6,400,000.

Pennsylvania Electric Comp (Johnstown, Pa.) spent \$41,000 in 1953 in the continuance of an pansion program that in the paste years has added \$144,000,000 of construction to its utility plant. (struction expenditures for 1954 estimated at \$31,000,000. The company's largest project this year be the completion of the Shaw generating station.

Pennsylvania Power Comp (New Castle, Pa.) has been engin a construction program with 812,696 being expended in 1953.

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Pennsylvania Power & L Company (Allentown, Pa.) rep that its 1953 expenditures and to of the Scranton Electric Comp totaling \$47,500,000, were the lar in the history of these companies these expenditures, \$26,900,000 of for generating capacity addition Sunbury, Martins Creek and Star plants, and \$20,600,000 for of facilities. Construction expendit of \$33,300,000 are planned by company and its subsidiary for large philadelphia Electric Comp

Philadelphia Electric Comp (Philadelphia, Pa.) spent about \$000,000 in 1953 on the construction new plant and facilities. This inch the cost of completing two new 1000 kw turbo-generators, which placed in service at the compa Delaware electric generating stallocated on the Delaware river. Struction is well un:derway on company's new Cromby station of Schuylkill river. On completion, station will add 350,000 kw capacity.

Portland General Electric Companded in the companies of t

pany (Portland Ore) spent \$8, (Continued on page 58)

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593 during the year on new construction. Tentatively, the construction budget for 1954 is \$10,250,000 not including the possibility that the coming year will see the start of major blocks of new generation.

Potomac Electric Power Company (Washington, D. C.) continued its construction at a rapid paceduring 1953. Total construction expenditures during the year aggregated \$24,500,000. It is estimated that construction expenditures in 1954 will

amount to about \$20,400,000.

Public Service Company of Colorado (Denver, Colo.) continued its construction program in 1953. Gross expenditures were \$21,900,000, the largest annual expenditure for construction in the history of the company and subsidiaries. During the past decade 220,000 kw of capacity have been installed at a cost of \$35,400,000 which has more than doubled the capacity at the beginning of the period. Expenditures for 1954 are estimated at \$20.866,000.

Public Service Company of New Mexico (Albuquerque, N. M.) reports that its 1953 construction program cost approximately \$7,219,000

and included the completion of several important projects. Present estimates indicate that 1954 expenditures for construction will be about \$7,145,000.

Public Service Company of Oklahoma (Tulsa, Okla.) invested \$14,-623,170 on construction additions in 1953, with \$6,388,684 being spent for production facilities, \$2,450,950 for transmission lines and substations, and \$5,783,536 for distribution systems.

Public Service Electric and Gas Company (Newark, N. J.) made expenditures for additions and improvement to electric and gas plant in 1953 amounting to \$83,340,946. Construction progressed during 1953 on the new 185,000 kw turbine-generator at the Burlington generating station. When this unit is completed the total effective generator capacity of the company's five stations will be 2,095,300 kw. The company's construction program as of December 31, 1953, amounted to \$120,051,000 of which approximately \$80,000,000 is expected to be expended in 1954.

Puget Sound Power & Light Company (Seattle, Wash.) made gross additions to plant amounting to \$5,521,218 in 1953. During that yet the sixth and last unit of the addition Rock Island generating facilities we placed in service, thus completing the entire expansion program ahead schedule. This new generation, tooking 165,000 kw, has been installed the Chelan County Public Utility Dirict under a 50-year lease and opening agreement with Puget. The company estimates that its 1954 construction requirements will be about \$000,000.

Rochester Gas and Electric Coporation (Rochester, N. Y.) spe \$16,724,224 during 1953 for additionand improvements to its facilities. Electric plant additions cost \$11,16457. The construction program 1954 provides for additions and inprovement to the company plant a equipment costing approximately \$18,500,000, with approximately \$1400,000 being scheduled for the electric department.

St. Joseph Light & Power Copany (St. Joseph, Mo.) made openditures for new construction 1953 amounting to a total of \$1,14

700

San Diego Gas and Electric Copany (San Diego, Cal.) continuits expansion program in 1953 wexpenditures totaling \$18,797,794. that amount, approximately \$13,00 000 was invested in electric department facilities. The budget for a construction in 1954 provides for penditures of \$26,000,000. More the \$21,000,000 is allotted to the elect department, the largest single penditure being for the completion unit No. 1 at the Encina plant.

Sierra Pacific Power Compa (Reno, Nev.) reports that cash quirements for construction tota

\$2,574,800 in 1953.

South Carolina Electric and Company (Columbia, S. C.) emates that 1954-1956 construction penditures for that company and sidiaries will amount to \$62,039.0 The 1954 program will account \$18,774,000 of this sum.

Southern California Edison Copany (Los Angeles, Cal.) reported that in 1953 the construction but was \$73,000,000 and that it will be proximately the same this year. First of two 125,000 kw general units of the new Etiwanda steam tion commenced operation in July the second in November.

pany (Pueblo, Colo.) made green expenditures for new construction (Continued on page 60)

This is not an offer of these Shares for sale. The offering is made only by the Prospectus.

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Yes... when you talk about shareowners, an average of nearly a score of additional partners a day is really "big league".

That's our score . . . an average of almost 20 new shareowners per business day for the past eight years. As we see it, the more people we have as partners in our business . . . and also the more these partners are local people . . . the better. Building ownership with local people, we believe, builds positive public relations.

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PENNSYLVANIA POWER & LIGHT COMPANY

aggregating \$725,818 during the year. The company has plans underway to construct an addition to its Canon City power plant, at an estimated cost of \$3,200,000. The anticipated completion date of the project is late 1955.

The Southern Company (Wilmington, Del.) reports that the construction program of its subsidiaries amounted to \$106,000,000, in 1953, the highest in the system's history. The subsidiaries operate in Alabama, Mississippi, Georgia and western Florida. During 1954, 1955 and 1956, the system companies plan to invest more than \$250,000,000 in new facilities to meet expanding power demands.

Southern Indiana Gas and Electric Company (Evansville, Ind.) made construction expenditures in 1953 amounting \$6,851,353. Since the end of World War II, they have totaled \$30,101,306. Proposed expenditures for 1954 are estimated to be about \$10,664,000.

Southwestern Public Service Company (Amarillo, Texas) spent over \$23,100,000 for new facilities during 1953. An expenditure of approximately \$23,400,000 has been budgeted for the construction of new facilities in 1954.

Tampa Electric Company (Tampa, Fla.) has a construction program involving expenditures of approximately \$10,000,000 during 1954.

Texas Power & Light Company (Dallas, Texas) made considerable progress in 1953 on its expansion program, with construction expenditures in that year amounting to \$20,-237,835. Plans for 1954 call for construction expenditures totaling \$26,-957,000.

The Toledo Edison Company (Toledo, Ohio) spent more than \$10,600,000 for new construction in 1953. This covered expenditures in connection with the construction of a new generating station, addition to its transmission system, extensions and improvements to its distribution system, and other facilities. Ground was broken for a new steam generating plant on Maumee Bay. This plant and related transmission facilities are estimated to cost \$29,300,000. It is an icipated that it will be in operation by late 1955 and will have an initial capability of 135,000 kw.

The Tucson Gas, Electric Light and Power Company (Tucson, Ariz.) made net additions to electric property of \$6,407,602 in 1953.

Union Electric Company of Missouri (St. Louis, Mo.) has been building new facilities to meet the constantly growing needs of its customers, with \$32,720,000 being spent during 1953. It is anticipated that construction expenditures for the next five years will approximate \$200,000,000.

Utah Power and Light Company (Salt Lake City, Utah) expended approximately \$14,500,000 for new plant and property in 1953. Since the end of World War II, the Utah Power & Light Company and subsidiary have practically doubled their plant and investment at a cost of \$84,500,000. Principal expansion includes completion of wo units at the Gadsby plant. Also under construction are a third unit at Gadsby and a 66,000 kw plant in the heart of the Utah coal fields, the latter at a cost of \$11,800,000. A construction program for 1954 costing approximately \$25,250,000 is planned.

Virginia Electric and Power Company (Richmond, Va.) spent \$45,947,000 on construction in 1953. About 94 per cent, or \$43,099,000, was spent on electric property. It is estimated that the 1954 construction program will call for \$53,000,000, the largest in the company's history. Of this amount, \$13,000,000 is budgeted for the new 100,000 kw development at Roanoke Rapids.

The Washington Water Power Company (Spokane, Wash.) spent \$3,700,000 during the year for new and improved facilities bringing to \$29,000,000 the amount expended for such purpose in the past eight years. In addition to this figure was the more than \$48,000,000 involved in the building of the firm's 11th and largest hydroelectric plant at Cabinet Gorge.

As the year ended, the company plans for new construction called for expenditures of \$4,000,000, not in cluding final construction expend tures at Cabinet Gorge.

West Penn Power Compan (Pittsburgh, Pa.) made additions to approperty in 1953 amounting to approximately \$21,700,000 and est mated that 1954 additions will t \$21,500,000.

Western Massachusetts Companies (Greenfield, Mass.) report that plant outlays during 1953 we \$2,949,236 as compared with \$7,440 817 spent in 1952. The 1954 construction program is expected to involutarger outlays than in 1953.

Wisconsin Electric Power Corpany (Milwaukee, Wis.) report that increasing demands for electr service required additions to its plate of about \$35,000,000 in 1953. An inportant milestone in the history of the company was passed on the completion of a 120,000 kw unit at the ne Oak Creek power plant. The comparplans to continue its construction program which may involve expenditure of \$100,000,000 during the year 1954, 1955, and 1956. The 1954 program includes the completion of a second 120,000 kw unit at Oak Creek

Wisconsin Power and Lig Company (Madison, Wis.) spet \$17,800,000 in 1953 for new construction. The Rock River steam electrogenerating station was the major construction project carried on during the year. Construction costs in 1950 are estimated at \$17,000,000. Of the total \$4,450,000 is for work on the second 60,000 kw unit at Rock Rive and the balance for transmission and distribution lines and miscellaneous equipment.

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If you're like most communications men, you know the many uses and advantages of carrier circuits. But chances are you'll never have need to make as thorough a study of carrier equipment as our carrier engineering specialists. That's why . . . when planning new carrier . . . so many communications men rely upon Automatic Electric's Follow-Thru Engineering. Here's what this cost-cutting service means to you . . .

Preliminary engineering is the first step. The day you start thinking about carrier is a good day to call on Automatic Electric! We'll work with your engineers, right on the job, and give you a complete over-all carrier plan. You save because of the economies that result from long-range planning.

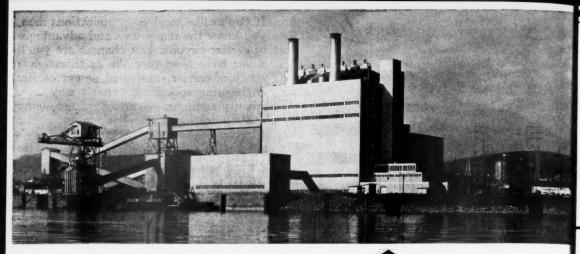
We follow through with engineered recommendations. We'll recommend correct carrier equipment for each specific part of your over-all plan—and show you why it is recommended! If existing equipment must be changed, we'll suggest your most economical moves. And when your carrier is to be installed, we'll give your communication engineer any needed assistance.

Carrier engineering for life! Automatic Electric engineering service is available throughout the life of your Lenkurt equipment. When carrier re-arrangement or expansion is required, the same concrete help is on call to adapt your Lenkurt equipment to changing needs.

Men who know carrier buy Lenkurt! From coast to coast, communications men have multiplied circuits at minimum cost by using Lenkurt Carrier. This standardized, flexible, top-quality equipment is available in a complete range of systems to meet any of your carrier requirements. A letter or call will bring complete facts or an Automatic Electric engineer to your desk.

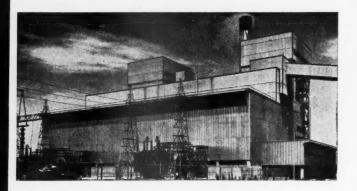
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TOMATIC ELECTRIC — LEADERS IN CARRIER COMMUNICATION — LENKURT



Why fine new power plants everywhere have Q-Panel Walls

Builders of new power plants in all parts of the country have specified Q-Panel walls for the following very good reasons: 1. Q-Panels are permanent, dry and noncombustible, yet may be demounted and re-erected elsewhere to keep pace with expansion programs. 2. Q-Panels are light in weight, thus reducing the cost of framing and foundations. 3. Q-Panels have high insulation value . . . superior to a 12" masonry wall. 4. Q-Panels are quickly installed because they are hung, not piled up. An acre of wall has been hung in 3 days. For more good reasons for using Q-Panel construction, use the coupon below and write for literature.



Robertson Q-Panels

H. H. Robertson Company
2400 FARMERS BANK BLDG. • PITTSBURGH 22, PA.

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Q-Panel walls grace the new Elrama Por Plant (above) near Pittsburgh. It was design by Duquesne Light Company's Engineer and Construction Department. The Dra Corporation was General Contractor.



Q-Panel walls (above) go up quickly in any weather because they are dry and hung in place, not piled up.

More than 32,000 sq. ft. of Q-Panels were to enclose the impressive Hawthorn Ste Electric Station (left) of the Kansas City, souri, Power and Light Company. Ebases vices, Inc., designed and built the plant.



Please send a free copy of your Q-Panel Catalog.

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The Hells Canyon Issue In Simple Terms

THE CONTROVERSY surrounding the proposed development of the Hells Canyon stretch of the Snake River can be reduced to this simple proposition:

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"Which plan of development is most beneficial to the people of the area and of the nation?"

All other considerations are subsidiary. The final determination will be made on this basis.

In fact, the Congress has given to the Federal Power Commission the specific responsibility of determining which resource development plan is best in the public interest not only in this case, but for all other hydroelectric projects in the United States for which licenses are granted.

It is easy to define the issue, but difficult to determine what is truly best in the

public interest when emotional appeals are made which conflict with facts of engineering and economics. Extensive hearings of technical testimony must be conducted, witnesses must qualify as to competence, testimony must be given under oath, and crossexamination permitted. Ultimately the facts will be established.

This process is now taking place in the formal hearings before the Federal Power Commission in Washington, D. C. Public confusion has been created by the widelydisseminated claims and opinions of public power supporters who oppose development by private enterprise. Their claims, as well as those of Idaho Power Company. are being tested in this hearing by the agency authorized by Congress to decide which of conflicting programs best meets the test of comprehensive development.

We think the public is entitled to know the Company's position. and the findings of its engineers. We sincerely believe the Company's proposed program meets the test of being "most beneficial to the people of the area and of the nation."

Write Idaho Power Co., Boise, Idaho for free copy of "Hells Canyon Issue in Simple Terms"



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POWER . . . Hurdling The Shining Mountains

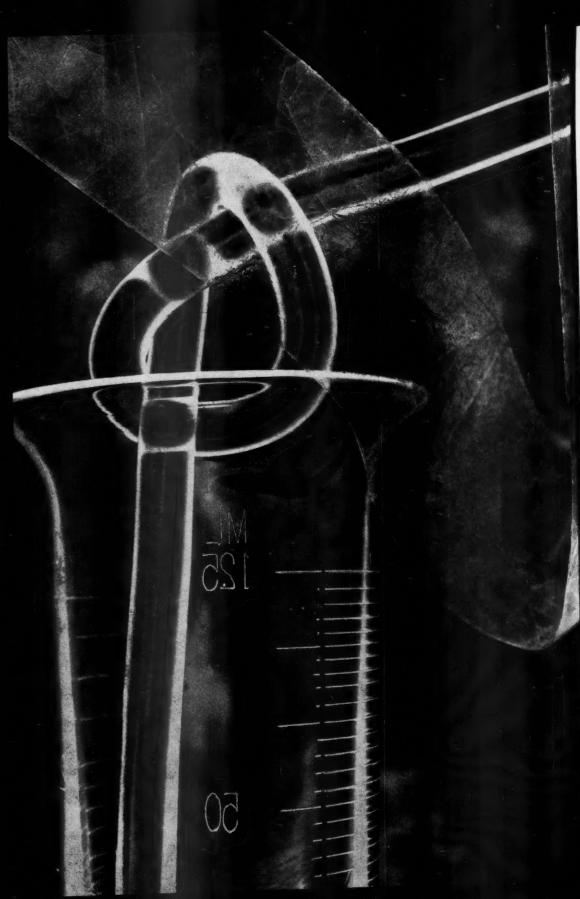


- New Line Will Take 3 Trainloads of Material
- New Generator Soon Will Turn Out Power

Those are the headlines of the power story in the 90,000-square-mile area served by us in majestic Montana. Our new 223-mile, 161-KV transmission line will require three trainloads of material and will pierce two mountain passes as it brings additional power to the southern part of the Treasure State between Anaconda and Billings. In late summer a third 56,000-KW generating unit will go on the line at our Kerr Hydroelectric Plant.

THERE'S PLENTY OF POWER IN MONTANA

The Montana Power Company



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Helping the industry meet its growing loads

Thermalastic*... insulation with a memory

Thermalastic insulation is the latest magic of industrial chemistry to achieve practical application in large motors and generators. Heat it...cool it...cycle it again, Thermalastic remembers the copper to which it is applied and stays with it. Stretching does not affect its properties and it will always return exactly to its original shape.

The scope of this development challenges the imagination. Thermalastic insulation offers the industry new freedom from shutdowns caused by insulation failure.

Most insulating materials in common use today are considered excellent. But imagine the inherent protection, the vastly improved reliability, in equipment having Thermalastic insulation ... with its superior thermal stability, outstanding moisture resistance and inertness to chemical contamination and dirt! The high voltage endurance of Thermalastic increases "time to failure" many hundred fold.

The basic materials in Thermalastic insulation are well known, their characteristics proved. The contribution of chemistry has been the development of a synthetic resin that contains the same elements as natural resin with an important molecular change. That, plus a new application technique, produces distinctive qualities that utilize fully the high insulating value of large mica flakes, and maintains them throughout the endless heat cycling that windings must endure. Thermalastic insulation will always hug its copper. It will never migrate or become brittle with age.

Evolved in the minds of engineers, developed in the laboratory, made practical on the production line, Thermalastic insulation is an outstanding example of the progress that Westinghouse offers to help you meet America's power needs.

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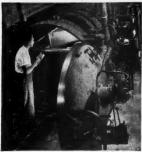


Thermalastic insulation

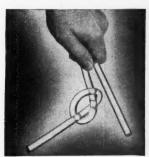
A chemist's skill at synthesizing, plus an application technique, adds wonderful new qualities to time-proved insulating materials.



Large mica flakes are built into a resilient, flexible tape that can be wound in smooth layers, providing the highest insulating qualities known.



The synthesized resin, having low viscosity, can be made to penetrate the mica completely, leaving no voids between layers, or between mica and copper. Thermosetting, it creates no voids, will not melt.



Infinitely elastic, chemically inert, the resin will hold the mica tight to its copper regardless of heat cycling or overload. Unaffected by moisture, it will never become brittle with age.

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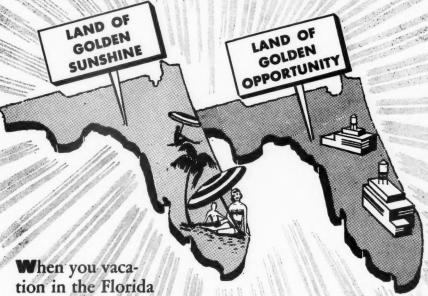
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FLORIDA POWER & LIGHT COMPANY

Major Developments i

Transformers for TODAY and TOMORROW

To MEET TODAY'S NEEDS, Allis-Chalmers is building transformers with capacities up to 220,000 kva and others for 345-kv transmission.

To be ready for tomorrow's requirements, and to add to today's design information, A-C designed and built the 600-kv unit shown below. Tested at design levels and then taken up to breakdown, this pioneering unit has been

rebuilt and is now available for testing future extra high voltage power transformers.

This combination of practical experience and development work is your assurance that you can depend on A-C for transformers engineered to meet your requirements . . . all, of course, incorporating corona-free design for long, trouble-free insulation life.

A-4264

At right: Capable of operation on 600-kv transmission line now—possibly on 880-kv line in the future, this 5000-kva commercial-type power transformer proves that Allis-Chalmest transformer and capable is ready for transmission voltages far beyond present levels.

Below: Two 90,000-kva banks of load ratio control transformers on 200-kvi lines of Southern California Edison Company.

Equipment for Power: Water Conditioning equipment, chemicals and service . . . Steam and Hydraulic Turbines . . . Generators . . . Condensers . . . Steam Jet Air Ejectors . . . Power Plant Pumps and Motors . . . Transformers . . . Circuit Breakers . . . Switchboards and Control . . . Switchgear . . . Unit Substations . . . Utilization equipment.

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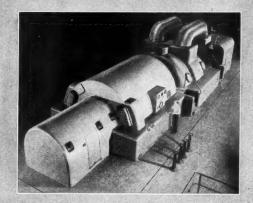
By cutting generator size, supercharged hydrogen cooling permits smaller plant size, lower foundation and crane costs, and smaller breaker and bus structures; now, maximum turbine-generator unit ratings are not limited by mechanical design. A-C turbine generators built for direct rotor conductor cooling have proved themselves in commercial service. The first of these — the world's first supercharged unit — has established a 99.86% availability record during its two full calendar years of operation. And A-C is building a fully supercharged generator affording further economic advantages.

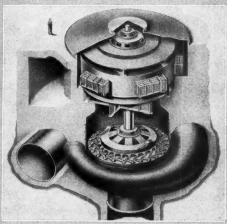
Reversible Pump-Turbine Units

Pioneered by Allis-Chalmers, reversible pump-turbines can solve some trouble-some peak load problems. They do this by reducing the amount of equipment formerly needed for pumped storage operation; the single unit operates alternately as a turbine-generator and as a motor-driven pump. One 20,000-hp pumpturbine is now in operation, and four others are in production, with turbine ratings ranging from 12,650 to 120,000 hp. The latter will combine the world's largest motor, with a rating of 102,000 hp, and the largest Francis turbine ever built.

Multi-Steam-Path Condensers

Allis-Chalmers is supplying six 100,000 sq ft surface condensers for the 2,200,000 kw of added private utility capacity being provided for AEC's Ohio diffusion plant. A-C multi-steam-path condensers have consistently helped to cut power costs. With 60 years of experience building over 13,000,000 sq ft of condenser capacity, A-C has the proven engineering and manufacturing facilities to build the largest condensers that might be required.







CHALMERS

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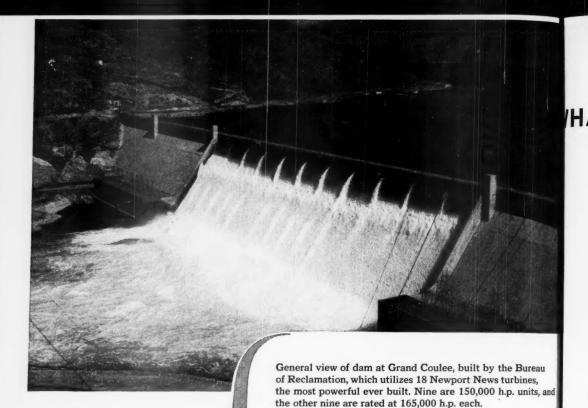
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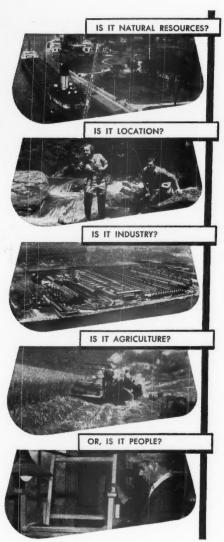
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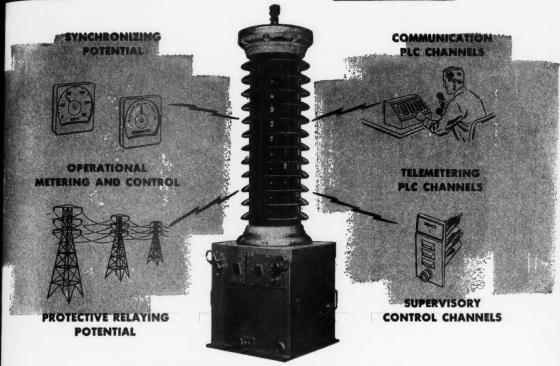
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To keep pace with Upstate's growth, and to provide low-cost, plentiful power for further expansion, Niagara Mohawk is spending over \$400,000,000 on new construction in the 1946-1954 period!



MAGARA MOHAWK'S thousands of industrial cusmers include every type and class of industry.

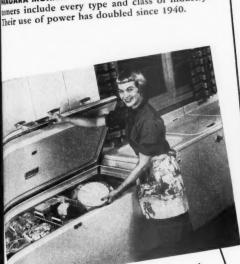
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WITH THOUSANDS of new homes built throughout Niagara Mohawk's service areas, system residential customers have now reached a total of nearly 800,000.



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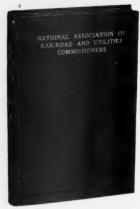
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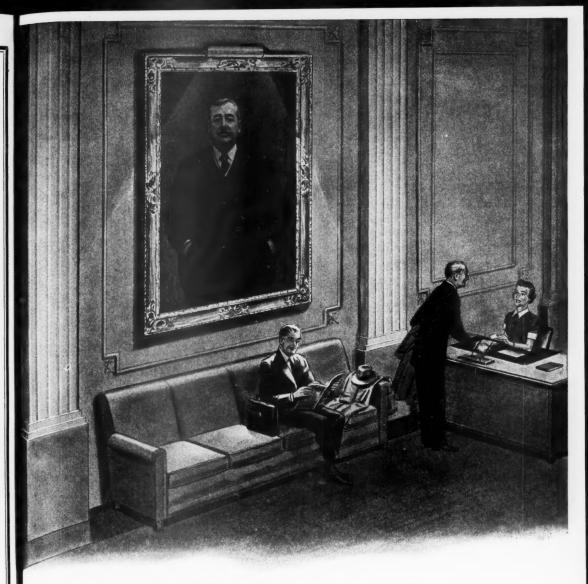
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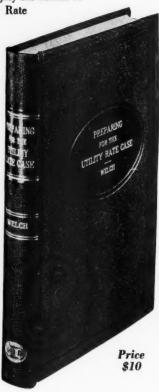
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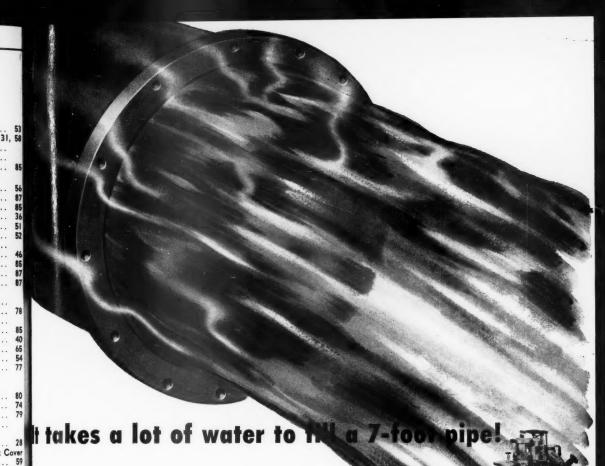
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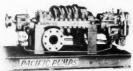
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